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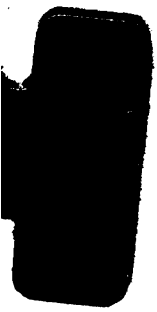

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TRANSACTIONS

OF THE

WISCONSIN

STATE HORTICULTURAL SOCIETY,

INCLUDING

ADDRESSES AND PAPERS PRESENTED, AND PROCEEDINGS
AT THE SUMMER AND WINTER MEETINGS
OF THE YEAR 1883-4.

VOL. XIV.

MRS. H. M. LEWIS, SECRETARY.

MADISON, WIS.:
DEMOCRAT PRINTING CO., STATE PRINTERS.
1884.

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LETTER OF TRANSMITTAL.

To His Excellency, JEREMIAH M. RUSK,

Governor of the State of Wisconsin:

SIR: In compliance with the laws of the state, I have the honor to transmit to you, for publication, the fourteenth volume of the transactions of the State Horticultural Society, including a full statement of the receipts and expenditures of the Society, and a portion of the papers read at its meetings, in 1883–4.

Respectfully submitted,

MRS. H. M. LEWIS,

Secretary.

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†Printed in the Transactions of Agricultural Society.

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LIST OF OFFICERS.

PRESIDENT.

J. M. SMITH, - - - - - - - - - - - GREEN BAY.

VICE PRESIDENT.

J. C. PLUMB, - - - - - - - - - - - MILTON

RECORDING SECRETARY.

MRS. H. M. LEWIS, - - - - - - - - - - MADISGN

CORRESPONDING SECRETARY.

B. S. HOXIE, - - - - - - - - - - - COOKSVILLE.

TREASURER.

M. ANDERSON, - - - - - - - - - - - PINE BLUFF.

SUPERINTENDENT.

B. F. ADAMS, - - - - - - - - - - - MADISON

MEMBERS OF EXECUTIVE COMMITTEE.

Ex Officio.

THE ABOVE OFFICERS.

Members by Election.

Dist.		*Dist.*	
1st.	S. HUNT, Evansville.	5th.	W. REYNOLDS, Green Bay.
2d.	GEO. C. HILL, Rosendale.	6th.	D. HUNTLEY, Appleton.
3d.	B. F. ADAMS, Madison.	7th.	A. J. PHILIPS, West Salem.
4th.	J. S. STICKNEY, Wauwatosa.	8th.	E. G. PARTRIDGE, Warren.

9th. WM. SPRINGER, Fremont.

COMMITTEE ON NOMENCLATURE AND NEW FRUITS.

J. C. PLUMB, Milton. GEO. P. PEFFER, Pewaukee.

GEO. J. KELLOGG, Janesville.

COMMITTEE OF OBSERVATION.

Dist.		*Dist.*	
1st.	G. J. KELLOGG, Janesville.	5th.	E. W. DANIELS, Auroraville.
2d.	G. C. HILL, Rosendale.	6th.	D. HUNTLEY, Appleton.
3d.	B. F. ADAMS, Madison.	7th.	Z. K. JEWETT, Sparta.
4th.	J. S. STICKNEY, Wauwatosa.	8th.	E. G. PARTRIDGE, Warren.

9th. WM. SPRINGER, Fremont.

FINANCE COMMITTEE.

H. C. ADAMS, Madison; B. S. HOXIE, Cooksville; N. N. PALMER, Brodhead.

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MEMBERS, 1884.

Adam, John	Markesan	Wisconsin.
Adams, B. F.	Madison	Wisconsin.
Adams, H. C.	Madison	Wisconsin.
Alcott, Wm.	Brodhead	Wisconsin.
Anderson, M.	Pine Bluff	Wisconsin.
Anderson, Andrew	Neenah	Wisconsin.
Arnold, A. A.	Galesville	Wisconsin.
Barnes, A. D.	Campbellsport	Wisconsin.
Bartei, S.	Markesan	Wisconsin.
Baumbach, W. von	Wauwatosa	Wisconsin.
Bennett, A. S.	Weyauwega	Wisconsin.
Campell, Henry	Evansville	Wisconsin.
Campbell, Mrs. V. H.	Evansville	Wisconsin.
Chappel, F. H.	Rutland	Wisconsin.
Coe, R. J.	Ft. Atkinson	Wisconsin.
Cole, W. H.	Brodhead	Wisconsin.
Cotta, J. V.	Lannark	Illinois.
Daniels, E. W.	Auroraville	Wisconsin.
Daugherty, Wm. F.	Preble	Wisconsin.
Dibble, G. W.	Evansville	Wisconsin.
Dickerson, H. J.	Appleton	Wisconsin.
Dore, J. S.	Neillsville	Wisconsin.
Eaton, C. F.	Fremont	Wisconsin.
Field, S. F.	East Troy	Wisconsin.
Floyd, H.	Berlin	Wisconsin.
Freeborn, S. J.	Ithaca	Wisconsin.
Gill, Wm.	Dayton	Wisconsin.
Goss, B. F.	Pewaukee	Wisconsin.
Graves, S. W.	Brooklyn	Wisconsin.
Greenman, C. H.	Dodge Center	Minnesota.
Hacker, T. L.	Madison	Wisconsin.
Haight, Nicholas	Syene	Wisconsin.
Hanchett, Mark	Footville	Wisconsin.
Hatch, A. L.	Ithaca	Wisconsin.
Hill, Geo. C.	Rosendale	Wisconsin.
Hirschinger, Chas	Baraboo	Wisconsin.
Holt, M. A.	Madison	Wisconsin.
Hoxie, B. S.	Cooksville	Wisconsin.
Howie, John	Waunakee	Wisconsin.
Hunt, Samuel	Evansville	Wisconsin.
Huntley, D.	Appleton	Wisconsin.
Innis, W. T.	West Rosendale	Wisconsin.
Jeffrey Geo	Milwaukee, 630 Chestnut St.	Wisconsin.
Jewett, Z. K.	Sparta	Wisconsin.
Kellogg, Geo. J	Janesville	Wisconsin.
Kellogg, Emily L.	Janesville	Wisconsin.
King, Edmund	Whitewater	Wisconsin.
Kingsbury, A	Fitzwilliam	New Hampshire.
Lawrence, F. S.	Janesville	Wisconsin.
Le Roy, J. H	De Pere	Wisconsin.
Lewis, Mrs. H. M	Madison	Wisconsin.
Libby, F. D.	Madison	Wisconsin.
Lowe, Victor	Palmyra	Wisconsin.
Mahon, John	Preble	Wisconsin.

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McDonald, D	Verona	Wisconsin.
Mills, Simeon	Madison	Wisconsin.
Morrison, W. H	Elkhorn	Wisconsin.
Newton, Miss M. E	De Pere	Wisconsin.
Noehle, Theodore	Green Bay	Wisconsin.
Olds, B. B	Clinton	Wisconsin.
Palmer, N. N	Brodhead	Wisconsin.
Partridge, E. G	Warren	Wisconsin.
Peffer, Geo. P	Pewaukee	Wisconsin.
Phillips, A. J	West Salem	Wisconsin.
Pilgrim, D. T	West Granville	Wisconsin.
Plumb, J. C	Milton	Wisconsin.
Potter, C. W	Mauston	Wisconsin.
Reid, Wm., Sr	North Prairie	Wisconsin.
Reid, Wm., Jr	North Prairie	Wisconsin.
Reynolds, Werden	Green Bay	Wisconsin.
Scribner, Jos	Rosendale	Wisconsin.
Smith, Alfred	Madison	Wisconsin.
Smith, J. M	Green Bay	Wisconsin.
Spencer, R. C	Milwaukee	Wisconsin.
Springer, Wm	Fremont	Wisconsin.
Springer, John	Clinton	Wisconsin.
Stickney, J. S	Wauwatosa	Wisconsin.
Stone, I. N	Fort Atkinson	Wisconsin.
Snydam, J. V	Green Bay	Wisconsin.
Thompson, H. M	St. Francis	Wisconsin.
Trelease, Wm	Madison	Wisconsin.
Tuttle, A. G	Baraboo	Wisconsin.
Vaughan, J. C	Chicago	Illinois.
Warren, A. A	Green Bay	Wisconsin.
Wilson, R. D	Platteville	Wisconsin.
Wrightman, E. W	Weyauwega	Wisconsin.
West, J. R	Evansville	Wisconsin.
Wilcox, E	Trempealeau	Wisconsin.
Williams, Daniel	Summit	Wisconsin.
Wood, J. W	Baraboo	Wisconsin.

HONORARY MEMBERS.

LIFE.

Dr. Joseph Hobbins, ex-President; F. C. S., Corresponding Member Royal Horticultural Society, England, Madison, Wisconsin.
O. S. Willey, ex-Recording Secretary.
Peter M. Gideon, Excelsior, Minnesota.
F. W. Case, ex-Recording Secretary, Madison, Wisconsin.

ANNUAL.

A. W. Sias	Rochester	Minnesota.
J. S. Harris	La Crescent	Minnesota.
Mrs. Ida E. Tilson	West Salem	Wisconsin.
Mrs. C. A. Willard	De Pere	Wisconsin.
Oliver Gibbs, Jr	Lake City	Minnesota.

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FRUIT LIST.

APPLES.

Seven Varieties best adapted to Wisconsin, Hardiness, Productiveness and Quality taken into consideration—Duchess, Wealthy, Pewaukee, Fameuse, Plumb's Cider, Tallman Sweet, Wolf River.

Additional list for special locations.—Tetofski, Red Astrachan, St. Lawrence, Fall Orange, Fall Spitzenberg, Price's Sweet, Alexander, Utter, Westfield Seek-no-Further, Willow Twig, Golden Russett, Walbridge.

List for trial on sandy soils.—Duchess, Fall Spitzenberg, McMahan.

CRAB APPLES.

For general cultivation.—Whitney's No. 20, Gibb,* Hyslop, Sweet Russet, Transcendent.

NOTE.—The question of adaptation of varieties is one so largely dependent upon local conditions of soil, elevation and aspect, that a general list will not answer fully the wants of every planter, and at best can only be a general guide in the selection of varieties.

For more specific directions, the following rules and lists are furnished by the committee chosen for this purpose:

1. Locations comparatively elevated and well drained, with a cool northern aspect and fine gravelly clay soil, not very rich, may extend the general list named above to an indefinite extent, with fair prospect of success in southern and eastern districts of the state. But for warm, sheltered locations and rich soils, which induce a great growth, no section of our state can safely plant other than those varieties known to be extremely hardy.

2. The best guide in the selection of varieties is for each to plant largely of such varieties as are found successful in locations similar to that each must plant upon. For all unfavorable locations, and extreme northern districts, only the most hardy, well tried apples of the Russian or Siberian types should be chosen for general planting.

3. In the extreme northern districts, only the crown of the hills should be chosen for the orchard, with a firm soil and porous subsoil, and if these materials are wanting naturally, they should be supplied artificially.

STRAWBERRIES.

For General Cultivation— Wilson, Crescent, Downing, with Longfellow and Mt. Vernon as late fertilizers of the pistilate Crescent.

For Trial— Kentucky, Cumberland, Bidwell, Longfellow, Vick, Sharpless, Piper.

Special List for Light Soils — Crescent, Wilson, Downer, Manchester.

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*Gibb Crab—Originated by Geo. P. Peffer, at Pewaukee, Wis. Produced from blossoms of oblate yellow Siberian, fertilized by pollen from Fall Greening, in 1859. Tree low and spreading in habit; leaf thick and wooly; fruit oblate, light yellow, firm, crisp, subacid. Season, September to November, size of Hyslop; productive and non-blighting.

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GRAPES.

For General Cultivation—Worden, Concord, Delaware, Janesville, Brighton, Moore's Early.

For Favorable Locations—Israella, Elvira, Champion, Duchesse, Rockington, Prentiss, Jefferson, Lady, Lady Washington.

RASPBERRIES.

For General Cultivation—Black: Gregg, Miami, Doolittle. Red: Cuthbert, Philadelphia, Turner, Brandywine.

For Trial—Black: Ohio, Souhegan, Tyler. Red: Shafer.

BLACKBERRIES

For General Cultivation—Snyder, Stone's Hardy, Ancient Briton, (*the latter with winter protection*).

For Trial—Bartel's Dewberry, Taylor.

PEARS.

Most Likey to Succeed for General Cultivation—Flemish Beauty.

For Trial—Ananas d'Ete, Early Bergamot, Bartlet, Swan's Orange, Seckel, Winter Nellis, Clapp's Favorite, Beurre d'Anjou, Doyenne d'Ete.

PLUMS.

For General Cultivation—De Soto.

For Special Locations—Lombard, Imperial Gage, Magnum Bonum, Yellow Egg, Eldridge, Duane's Purple.

For Trial—Cheney.*

*On recommendation of J. S. Harris.

CHERRIES.

For General Cultivation—Early Richmond, Late Richmond, English Morello.

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TREE AND SHRUB LIST.

EVERGREENS.

For General Cultivation — Norway Spruce, White Pine, Arbor Vitæ, Scotch Pine, Balsam, White Spruce.

For Ornamental Planting — Austrian Pine, Norway Pine, Hemlock, Siberian Arbor Vitæ, Red Cedar, Dwarf Pine (*Pinus Montana*).

For Timber — White Pine.

For Live Fence Posts — Norway Spruce.

DECIDUOUS PLANTS.

TREES FOR TIMBER.

Green Ash.
European Larch.

Trees for lawn. (Valuable in order named.)

Weeping Cut-leaved Birch.
Linden.
Hackberry.
Green Ash.
European Mountain Ash.
Oak-leaved Mountain Ash.
European Larch.
American Mountain Ash.
Horse Chestnut.
Wisconsin Weeping Willow.
New American Weeping Willow.
Kilmarnock Willow.
Weeping Golden-barked Ash.
Weeping Mountain Ash.
Weeping Poplar.

Shrubs for lawn. (Valuable in order named.)

Snow ball.
Lilacs (three varieties).
Syringa.
Deutzia.
Weigelia.
Upright Honeysuckles.
Pyrus Japonica.
Flowering Almonds.
Spiræas.
Strawberry Shrub.
Cut-leaved Sumach.
Fringe or Smoke Trees.
Purple-leaved Barberry.
Hydrangea Grandiflora.

ROSES.

Climbers — Queen of Prairie, Gem of Prairie, Baltimore Belle.

Hybrids and June — (With protection) Persian, Yellow Harrison, Madame Plantier, General Jacqueminot, La France, General Washington.

CLIMBING VINES.

American Ivy (*Ampelopis*).
Scarlet Honeysuckles.
Fragrant Honeysuckles.
Clematis Jackmanni.

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ACT OF REORGANIZATION

OF THE

STATE HORTICULTURAL SOCIETY.

CHAPTER 151, LAWS OF 1879.

SECTION 1. The executive committee of the Wisconsin State Horticultural Society shall hereafter consist of the president, secretary and treasurer of said society, and of one member from each congressional district of the state; said members from the congressional districts to be chosen annually by the county and local horticultural societies in the respective districts.

SECTION 2. The present officers and executive committee of said society shall hold their respective offices until the Tuesday next succeeding the first Monday in February, 1880, and until their successors are appointed.

SECTION 3. It shall be the duty of the said society to aid in the formation and maintenance of county and local horticultural societies, to promote the horticultural interests of the state by the holding of meetings for discussion; by the collection and dissemination of valuable information in regard to the cultivation of fruits, flowers and trees adapted to our soil and climate, and in every proper way to advance the fruit and tree growing interests of the state.

SECTION 4. The annual meeting of the society shall be held on the Tuesday next succeeding the first Monday in February of each year, for the election of its officers, the transaction of general business, and the consideration of questions pertaining to horticulture.

SECTION 5. All vacancies in the offices of said society may be filled by the executive committee; and should there be a failure to elect a member of the executive committee in any district, the vacancy may be filled by a two-thirds vote of the members of the society present at any regularly appointed meeting.

SECTION 6. It shall be the duty of the secretary of said society to make an annual report to the governor of the state of the transactions of the society, including an itemized account of all moneys expended during the year, in addition to such matters as are now specified in the law relating to the same.

SECTION 7. The number of printed pages of said report shall not exceed three hundred and fifty, and the number of copies shall be limited to three

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thousand five hundred. In all other respects, the publication and distribution of said report shall be in accordance with the provisions of the law now in force concerning the same.

SECTION 8. The sum of $600 is hereby appropriated out of any money in the state treasury not otherwise appropriated, to aid the said society in carrying out the provisions of this act; said sum to be paid by the state treasurer upon the order of the president of said society, in such sums and at such times as shall best contribute to the prosperity of the society and the interests it represents.

SECTION 9. This act shall take effect and be in force from and after its passage and publication.

Approved March 1, 1879.

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CONSTITUTION AND BY-LAWS.

As Amended February 1883 *and February* 1884.

CONSTITUTION.

ART. I. This Society shall be known as the Wisconsin State Horticultural Society.

ART. II. Its object shall be the advancement of the art and science of horticulture throughout the state.

ART. III. Its members shall consist of *annual* members, paying an annual fee of one dollar; which shall entitle the wife of such member to the privileges of full membership; of *life* members, paying a fee of ten dollars at one time; of *honorary life* members, who shall be distinguished for merit in horticultural or kindred sciences, or who shall confer any particular benefit upon the society; and *honorary annual* members, who may, by vote, be invited to participate in the proceedings of the society.

ART. IV. Its officers shall consist of a President, Vice President, Recording Secretary, Corresponding Secretary, Treasurer, Superintendent, and an Executive Board consisting of the foregoing officers and additional members, one from each congressional district of the state, five of whom shall constitute a quorum at any of its meetings. In addition to the foregoing officers, the presidents of all local horticultural societies reporting to this society shall be deemed honorary members and *ex officio* vice presidents of his society. All officers shall be elected by ballot, and shall hold their office for one year thereafter, and until their successors are elected; provided, the additional executive members may be elected by the county or local horticultural societies of their respective districts.

ART V. The society shall hold its annual meeting for the election of officers, on the Monday next preceding the first Tuesday in February. It shall also hold a meeting in December of each year, at such place and time as may be decided upon by the society or its executive committee, for the exhibition of fruit and for discussions, and such other meetings for discussions and exhibition as the executive committee may direct, at such time and place as the executive board shall designate.

ART. VI. This constitution, with the accompanying by-laws, may be amended at any regular meeting, by a two-thirds vote of the members present.

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BY-LAWS.

I. The president shall preside at meetings, and, with the advice of the recording secretary, call all meetings of the society and have general supervision of the affairs of the society; and shall deliver an annual address upon some subject connected with horticulture.

II. The vice president shall act in the absence or disability of the president, and perform the duties of the chief officer.

III. The secretary shall attend to all the correspondence, shall record the proceedings of the society, preserve all papers belonging to the same, and superintend the publication of its reports. He shall also present a detailed report of the affairs of the society, at its annual meeting. He shall also endeavor to secure reports from the various committees, and from local societies, of the condition and progress of horticulture in the various districts of the state and report the same to the society. It shall be the duty of the secretary to make an annual report to the governor of the state, of the transactions of the society, according to the provisions of the statutes for state reports.

IV. The treasurer shall keep an account of all moneys belonging to the society, and disburse the same on the written order of the president, countersigned by the secretary, and shall make an annual report of the receipts and disbursements, and furnish the secretary with a copy of the same, on or before the first day of the annual meeting. The treasurer elect shall, before entering upon the discharge of the duties of his office, give good and sufficient bonds for the faithful performance of his duties, subject to the approval of the executive committee.

V. The executive board may, subject to the approval of the society, manage all its affairs and fill vacancies in the board of officers; three of their number, as designated by the president, shall constitute a finance committee.

VI. It shall be the duty of the finance committee to settle with the treasurer, and to examine and report upon all the bills or claims against the society which may have been presented and referred to them.

VII. The standing committees of this society shall be as follows: 1st, Committee on Finance, consisting of three members; 2d, Committee on Nomenclature and New Fruits, consisting of three members; 3d, Committee on Observation, as now provided. Said committees to be be appointed annually by the executive committee of the society.

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LAWS RELATING TO THE PUBLICATION AND DISTRIBUTION OF THE TRANSACTIONS OF THE WISCONSIN STATE HORTICULTURAL SOCIETY.

Revised Statutes, 1878.

SECTION 339. There shall be printed annually by the state printer, on the order of the commissioners of public printing, * * * three thousand copies of the transactions of the Wisconsin State Horticultural Society, together with abstracts of reports of county and other horticultural societies, and such other matter pertaining to fruit growing and other horticultural interests of the state as shall be deemed important. The volume may include such engravings as shall be necessary to illustrate the printed matter; the cost of said engravings not to exceed the sum of one hundred and fifty dollars in any one year, and to be paid out of the state treasury.

SECTION 363. The transactions of the State Horticultural Society shall be distributed as follows: Five copies to each member of the legislature; fifty copies to each town or county horticultural society that shall report its organization, with officers elect, number of members, and an abstract of its proceedings, for publication in said volume, to the Secretary of the State Horticultural Society; fifty copies to each county agricultural society reporting to the secretary of state; fifty copies to the State Agricultural Society; fifty copies to the State University; twenty-five copies to the State Historical Society; and all remaining copies to the State Horticultural Society. * * * The number of the printed pages of the transactions * * * of said horticultural society shall not exceed two hundred, and all such transactions shall be printed on good book paper and bound in muslin covers, uniform in style with the previous volumes published.

Chapter 151, *Laws of* 1879.

SECTION 6. It shall be the duty of the secretary of said society to make an annual report to the governor of the state of the transactions of the society, including an itemized account of the moneys expended during the year, in addition to such matters as are now specified in the law relating to the same.

SECTION 7. The number of printed pages of said report shall not exceed three hundred and fifty, and the number of copies shall be limited to three thousand five hundred. In all other respects, the publication and distribution of said report shall be in accordance with the provisions of the law now in force concerning the same.

Chapter 320, *Laws of* 1883.

SECTION 7. There shall be printed annually by the state printer, and on the order of the commissioners of public printing, the following documents.

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1. Twelve thousand copies of the transactions of the Wisconsin State Agricultural Society, together with abstracts of the reports of the county agricultural societies, and such other matters pertaining to the industry of the state as shall be deemed important; provided the number of pages shall not exceed five hundred.

2. Twelve thousand copies of the transactions of the Wisconsin State Horticultural Society, together with such abstracts of reports of county and other horticultural societies, and such other matters pertaining to fruit growing and other horticultural interests of the state as shall be deemed important; provided, the number of pages shall not exceed two hundred.

3. Twelve thousand copies of the transactions of the State Dairymen's Association, and such other matters pertaining to the dairy interests of the state as shall be deemed most important; provided the number of pages shall not exceed one hundred and fifty.

4. Twelve thousand copies of the report of the department of agriculture of the State University; provided the number of pages shall not exceed one hundred.

SECTION 8. Eleven thousand five hundred volumes of said report shall be bound in cloth, uniform in style, with volumes previously published, each volume to contain one copy of each of the reports designated in the preceding section, and shall be distributed as follows: Thirty copies to each member of the legislature; one hundred copies to the State Historical Society; twenty-five copies to each county agricultural society and district industrial association which embraces two or more counties and furnishes the State Agricultural Society a report of its proceedings; one hundred copies to the State Horticultural Society; twenty-five copies to each county horticultural society that shall report its organization, with officers elect, and give an abstract of its proceedings for publication in said volume to the secretary of the State Horticultural Society; one hundred copies to the State Dairymen's Association; fifty copies to the State University; five copies to the Wisconsin Humane Society; two copies to each public library in the state; and the remaining copies to the State Agricultural Society for distribution by its secretary.

SECTION 9. Five hundred copies of the transactions of the State Agricultural Society, and five hundred copies of the transactions of the State Horticultural Society, shall be bound singly, in cloth; five hundred copies of the transactions of the State Dairymen's Association, and five hundred copies of the report of the department of agriculture of the State University, shall be bound in paper, for the use of these several societies and departments for distribution or exchange.

LAW RELATING TO TREE BELTS.

Revised Statutes, 1878.

SECTION 1469. Every owner or possessor of five acres of land, or more, who shall successfully grow by planting with forest trees, consisting of the

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following kinds, or such species thereof as will grow to the height of fifty feet or more, viz.: arbor vitæ, ash, balsam fir, basswood, beech, birch, butternut, cedar, black cherry, chestnut, coffee tree, cucumber tree, elm, hackberry, hemlock, hickory, larch, locust, maple, oak, pine, spruce, tulip tree and walnut, tree belts in the manner and form prescribed in the next section, shall be entitled to have the land on which such tree belts grow until they shall reach the height of twelve feet, and after they shall have attained that height, to receive an annual bounty of two dollars per acre for each acre so grown.

SECTION 1470. Such tree belts shall be planted on the west or south sides of each tract of land, be of uniform width through their entire length, contain not less than eight trees at nearly equi-distance, on each square rod of land, and be at least thirty feet wide for each five acre tract, sixty feet wide for each ten acre tract, and one hundred feet wide for each square forty acre tract, and upon all square tracts of land, upon two sides thereof. All tree belts owned by the same land owner must be planted not to exceed a fourth of a mile apart, and on the west and south sides of every square forty acres, and shall not exceed one-fifth of the entire tract of land on which the same are planted; provided, that when the east and north sides, or either, of any tract of land, is bounded by a public highway, a tree belt one rod wide may be planted next to said highway, although it, with the others on the west and south sides, shall exceed one-fifth of the whole tract; and tree belts may be planted on any other lines within each forty square acres, by permission of the assessor.

SECTION 1471. The assessor shall, upon the application of the owner thereof, in each year, at the time of assessing the personal property in his district, make a personal examination of all tree belts for which bounty or exemption from taxation is claimed, and ascertain whether they have been planted as required in the preceding section, and are thriftily growing, and if he shall be satisfied thereof, he shall not assess the same for taxation unless the trees therein shall have attained the height of twelve feet, and in that case he shall deliver to the owner a certificate that he is entitled to an annual bounty of two dollars for each acre of such tree belts, stating therein the whole amount of such bounty and giving a description of the the entire land of which the tree belts form a part, and the amount of such bounty shall be credited by the treasurer in payment of any taxes assessed on such land, as so much cash; but if not so satisfied, the assessor shall assess the land for taxes or refuse to grant any certificate for the bounty, as the case may require; and if, after any certificate for such bounty shall have been issued, the owner of any such tree belts shall suffer the same to die out by want of cultivation or otherwise, or shall cut the same down, or in any other way allow the same to be thinned out, that in the opinion of the assessor he ought no longer to receive such bounty, he shall give the treasurer written notice thereof, and thereafter no further bounty shall be allowed until such owner shall again receive a certificate therefor.

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PROCEEDINGS

AT THE

SUMMER MEETING

HELD BY THE

Wisconsin State Horticultural Society,

AT

RIPON, June 28–29, 1883.

Meeting called to order at 11 A. M. by President J. M. Smith, of Green Bay. Moved and carried that L. G. Kellogg act as secretary of the convention, in the absence of Secretary Trelease. Moved and carried that a committee on programme be appointed by the chair and also one on resolutions.

The first paper read was the following:

OUR BIRDS IN RELATION TO HORTICULTURE.

By PROF. F. H. KING, River Falls.

Ladies and Gentlemen:—Given a continually increasing population and a steady encroachment upon unclaimed territory; nothing can be more certain than that, if a healthy advancement towards "complete living" is to follow with the same measured pace a sound, progressive system of economy must lead the way. If there is one thing more than another pervading and stimulating the intense activity of to-day, it is the notion that the channels through which available energies are running to waste must be closed or that these energies must be deflected in such ways as to contribute useful results. Day by day the printed page comes to us aglow with the glad tidings that some one has made a

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valuable discovery and thereby converted a waste substance of some great manufacturing industry into a useful product. Perhaps no more forcible illustration of what is here meant can be given than that furnished by the utilization of the by-products of the illuminating gas manufacture. Dr. C. W. Siemans, in his inaugural address, delivered last August before the British Association, states that the value of the annual production of by-products from the manufacture of gas in the British Isles is more than $40,500,000, and that this sum exceeds the value of the coal used in the production by over $13,500,000. This sum of $40,500,000 is over and above the value of the illuminating gas which was the direct object of the manufacture, and in the earliest stages of gas manufacture these by-products were almost altogether wastages — some of them got rid of only at great expense. Dr. Siemans states that there is up to this day a dead waste of about 120,000 tons of sulphur annually from the gas factories of the British Isles, which has yet to be turned into some remunerative channel.

From the nature of the elements involved, and the magnitude of the industry itself, there can be no other which can in any way present the enormous wastage totals which have, thus far, been inseparably connected with agricultural enterprises of all kinds. These wastages too, are, of such a nature, and are so distributed as to make the problem of converting them into remunerative elements perhaps the most difficult with which man is called upon to deal. It is a problem, however, which must press harder and harder for solution, as the demands for food-stuffs increase.

There is, perhaps, no greater waste in your business and in farming generally, than that which comes through the necessity of feeding such vast numbers of living beings in the form of insects and weeds which can in no way be turned to account so as to result in appreciable reward. With a most limited knowledge of the insects infesting cultivated plants and a very small reference library relating to the subject at my command, I can enumerate a dozen enemies of the strawberry plant, forty-one insects destructive to grapes, and more than sixty which prey upon the apple.

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These numbers are certainly much too small to express the facts as they exist, and other cultivated fruits and plants are not more fortunate. These insects are small, and when considered singly are insignificant, but the vast numbers of them make the grand total of waste through their depredations almost beyond computation. How to lessen or prevent this great wastage must be a problem of growing importance as the demands upon the soil increase.

The great family of modern birds, some 10,000 species in all, of which Wisconsin has nearly 300, or about one-thirty-fifth of the whole bird population of the world, appears to owe its sustenance very largely to insect life. Indeed these birds are the result of nature's methods of reducing wastages and making the most out of littles; and since each of the 10,000 species of birds probably counts its individuals by the millions or tens of millions, it must appear that the numbers of insects annually consumed by birds are well beyond the range of figures, and that the amount of vegetation consumed by the insects is stupendous.

It does not appear possible for man to exterminate many, if, indeed, any, of the vast hordes of destructive species of insects which prey upon his crops, and the only method which appears to be practicable, is that of holding these insects at the least possible expense within the narrowest possible limits. How to do this is a question of more than national interest. The cases are rare indeed where it is at all practicable to meet these enemies hand to hand. They must be controlled in some manner indirectly. As already indicated, birds have long been one of nature's means of holding insects within bound, but from the horticultural point of view, and especially from the small fruit side of that question the objection comes, that while the birds are destructive to insects they are at the same time destructive to the same crops which they should protect.

While it must be admitted that a few of our birds, like the robin, cat bird, brown thrush and cherry bird do feed to some extent upon small fruits, it must not be overlooked that our birds, as a class, are not to any noteworthy extent thus injurious. In proof of this I can present the fact that out of

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some 1,800 birds whose stomachs I have examined only 62 birds had eaten fruits of any kind, and of the 62 only 24 had eaten cultivated fruits. Only 51 of our 295 species of birds are accused by any one of eating fruits, wild or cultivated. Prof. S. A. Forbes, state entomologist of Illinois, presents some specific facts bearing upon this same point which he has obtained from extended and careful observations. He has examined the stomachs of 114 robins, 70 cat birds and 64 brown thrushes shot during the small fruit months—June, July and August—and finds that 51 robins, 41 cat-birds and 24 brown thrushes had eaten cultivated or wild fruits, 32 per cent. of the food of the robins, 52 per cent. of that of the cat-birds and 24 per cent. of the brown thrushes, consisting of fruits, wild or tame. Expressing these results in the aggregate of 248 birds examined during the fruit season, 116 or less than one-half, had eaten fruits, and the fruit eaten comprised but 36 per cent. of the whole food of these 248 birds.

Presenting part of these facts in a little different way still, 43 of the 248 birds had eaten blackberries, 11 raspberries, 33 cherries, 7 currants, 12 grapes and only 5 strawberries. Blackberries formed 13 per cent. of the whole food, raspberries 3⅓ per cent., cherries 8⅔, currants 1, grapes 3⅓ and strawberries less than one per cent. From my own experience with these three birds—the robin, cat bird and brown thrush—I can say that Prof. Forbes' estimate of the per cent. of fruits eaten by them is, in my judgment, quite large enough. Do these three species render a sufficient service in destroying insects to pay for the fruits they consume?

In other lines of work you do not expect to have services rendered without due compensation. You board the horse the year through and give him lodging for the services he is able to render; you expect the hired man will pick from the vines some of the berries and eat an apple now and then, and if he is a faithful servant you are glad to see him do so.

During the six or seven months these three birds are laboring with us, certainly less than one-fifth of their food consists of cultivated fruits, while more than sixty per cent. of their food is insects. These ratios are as one to three, the

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amount of insect food being three times that of fruit. Now would you consider it an unwise investment to contract with some person to give him one quart of strawberries for every three quarts of leaf-rollers he would gather from your vines or one peck of plums for every three pecks of curculios brought to you dead, or a bushel of currants for every three bushels of canker-worms destroyed. Of course you would be willing to do very much more than reverse these ratios, for a bushel of curculios and a bushel of plums, a bushel of cutworms and a bushel of corn, a bushel of chinch-bugs and a bushel of wheat are manifestly not to be counted as equivalent values on the opposites of any account. But the robin, cat bird, brown thrush and cherry bird stand very much in the same relation as that occupied by the assumed contractor. Their case is of course exaggerated so far as the particular insects named are concerned but certainly not as related to insects as a class. Of course no one suffers as heavily from these four birds as do the small fruit growers but many of them in our state have other and larger interests besides, and to such these birds are indispensable. How destructive the cherry birds are to caterpillars, at times, is shown conclusively by Prof. Forbes in one of his excellent reports on the food of birds. He says, in discussing the food of some birds which were collected in an orchard, severely attacked by canker-worms in May 1881: "Next comes the gem of our ornithological beauties, the cedar bird, sometimes called the cherry bird, and greatly persecuted for its love of cherries. A flock of about thirty of these birds had apparently taken up their residence in this orchard. The food record of the seven which were killed is brief — canker-worms, one hundred per cent., expressed it all. The number of canker-worms in each stomach, determined by actual count ranged from seventy to one hundred and one, and was usually nearly one hundred. Assuming that these constituted a whole day's food, the thirty birds were destroying three thousand worms a day, or ninety thousand for the month during which the caterpillar is exposed."

Notwithstanding the many times the cherry bird has been sentenced to extirpation because it is especially fond of cher-

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ries, the justice or injustice of such decisions yet remains to be established. And this leads me to suggest that it may yet be found advisable for farmers to plant small fruit trees for the express purpose of attracting birds about their premises. Many of our farmers are not only scrupulously careful to cut down every tree that may be growing in their fields, but they are often equally careful to grub out those which remain along the fences. In view of the geat service which insectivorous birds render to agriculture, and the conditions which must be observed in order to retain them in abundance in agricultural districts, the destruction of trees to which I have referred must be regarded as false economy. There are very few of our birds which can or will withstand the piercing rays of the mid-summer noonday sun unprotected by shade of some sort, and a still smaller number of the insectivorous species which are so common and useful now can possibly remain so after the groves and woods are gone unless some special provisions are made for them. The planting of shade trees along the streets which so many are doing is a step in the right direction and the setting of trees along line fences which a few on the prairies are attempting is a move to the point.

I believe that nearly every stationary fence on the farm should have its row of deep-rooted shade trees, and especially should this be true on the prairies. Such trees could perform four very important functions: (1.) They could not fail to increase the annual amount of rain as has been proved by the increasing rain fall of Kansas, where trees are being largely planted. (2.) They would mitigate very much the extreme heat of summer. This I can affirm, not only upon *a priori* reasons, but from experiments I have tried bearing upon this point. Holding a thermometer on the leeward side of a small tree but not in the shade, allowing the air to pass through the tree top before coming upon the thermometer the temperature was two degrees lower than indicated when the general current of air passed over the thermometer held not twenty feet distant. (3.) These trees could be used as perpetual posts for wire fences. Lastly, though by no means least, they would serve as breeding places for

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birds. It has seemed to me that it would be very desirable to have a fair sprinkling of cherry trees in these rows, and especially the choke cherry and wild black cherry. There is no fruit more attractive to birds than these. The choke cherry ripens early enough to draw the birds from the raspberries, and and the black cherries would serve also to draw the burden of the attack from the blackberries, which come on later. It might even be desirable to allow some of the red raspberries and cultivated cherries to grow along these fences for the same purpose.

But if such steps as these are undesirable or impracticable there are other birds which are purely insectivorous and capable of becoming abundant if suitable encouragement were offered to them. Such birds are the house wren, blue bird, summer yellow bird — not the thistle bird or wild canary as it is sometimes called — the chippy or little streaked, gray bird with a chestnut crown, so common about the dooryard, building a delicate nest in trees and lining it with horsehair, and the warbling vireo — a small, olive green bird coming to be more common in orchards; all of these birds are insect destroyers of the most extreme type and neither of them is destructive to fruits or seeds of cultivated plants The blue bird and wren may be encouraged by putting up suitable houses for them, enough and to spare. You can encourage the others greatly by discouraging the cats. These animals are expensive traps in more ways than one and the minimum number of them should be kept for use. About zero is a large enough number for well regulated and rightly composed families. Other enemies of these birds are the blue jay, the white-rumped shrike and the cow bird. The blue jay has the habit of plundering bird's nests of both their eggs and their young, killing even half-grown robins. The shrike, which is an ash-colored bird a little smaller than the blue jay and which has black wings and a black stripe through the eyes, has the habit of pouncing hawk-like upon small birds and killing them. These two birds should receive no encouragement and should not be allowed to breed about dwellings, in orchards or in gardens. The cowbird

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is the black bird which follows cattle and horses about in the pasture.

It has the strange habit, outside of the human family, of imposing the labor of rearing its children upon other birds. This it does by laying its eggs singly in the nests of other birds. I have known seven out of fourteen pewees nests visited during one spring in a single locality to contain a cow bird's egg each. Since it is a general rule that in such cases only the cow bird's egg hatches it is evident that in these cases if events had transpired as they had been planned there could have been but seven cow birds to stand in the place of from twenty-eight to thirty-five pewees. Such is the check this bird imposes upon the pewee. If, as is generally believed, each cow bird represents a brood of young birds whose birth has been prevented, the number of cow bird's existing at any time represents a deficiency in the bird population of a country of some three times their number; and as the nests in which this parasite usually deposits her eggs are those of the most exclusively insectivorous species we have, it is evident that the cow bird must prevent the destruction of many more insects than it is capable of devouring.

I have said that there are purely insectivorous birds capable of becoming abundant if proper encouragement were offered them, but only one among those I named could be expected to render material service in your strawberry fields. This is the little chippy. Its services are especially valuable because it is so much upon the ground where it and the robin, about dwellings and in orchards and gardens, are almost alone. During rainy days it may often be seen with a cutworm in its mouth. So far as I know it is harmless to garden seeds and never molests grains while it feeds to some extent upon small heteropterous insects, some of them only .09 of an inch long. I mention this because it is a form related to the new strawberry enemy which has proved so disastrous in our sister state, Illinois. This new enemy of the strawberry, Prof. Forbes informs me, is no other than the very common *Lycus Lineolaris* found everywhere, and he has done me the further kindness of sending some of the pests

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in all stages of development. These I have brought with me thinking you would be glad to see them. There are at least three other hemipterous insects destructive to strawberries, the strawberry plant louse, the false chinch-bug, and the flea negro bug, all of which are small but still as large or larger than those related forms upon which the chippy feeds. Then again there are feeding upon these plants three small beetles, the strawberry crown-borer, the strawberry root-worm and the grape-vine colapsis, the adult forms of which range between 1-12 and 1-5 of an inch in length. Such small beetles are also preyed upon by this bird, and as one of these beetles, the crown-borer, is wingless, only such birds as get their food upon the ground would be likely to destroy it. Two strawberry span-worms are also reported as injurious and to such forms as these in the caterpillar stage, chippy, and indeed most small birds, are exceedingly destructive, and this is especially true while the young are being reared. One of these span-worms is double brooded, the larvae appearing on the vines first in May or June and again in July; but this is the case also with the chipping sparrow and its two families of four or five members each, which during two long weeks are all of them hungrier than any schoolboy ever dreamed of being, are in rearing at the same periods. The strawberry worm (*emphytis maculatus*) counted among the most destructive of enemies, like the last, is double brooded, the two broods occurring at the same seasons in which the chippy is pressed so hard to obtain a sufficient supply of food for her young. Upon these it is to be expected, this bird feeds, though I cannot say that it does from actual observation.

There is, perhaps, no more destructive insect to the strawberry vine than the strawberry leaf-roller, which in the larval state, is little more than a third of an inch in length, and which has learned to shield itself from the attacks of birds and other enemies by crumpling and folding the leaves over itself, forming a leafy home in which it feeds in comparative safety. This leaf-roller is only one of a very large number of insects infesting cultivated and wild plants which thus wrap themselves in strong leaf-cases, but we have at least

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one bird which has learned their hiding places and which diligently destroys them. I refer to the Baltimore or Golden Oriole, whose strong, sharp beak fits it admirably for such work. An instance of the destructiveness of this bird to leaf-rollers came under my observation. While walking through a dense grove of young oaks, my attention was attracted by a loud noise of tearing leaves. On approaching the spot a family of orioles flew to a large neighboring tree and the noise ceased. In the stomach of one of these birds I found twenty leaf-rollers which were then so common on the oaks. I do not know that the oriole feeds upon the strawberry leaf-roller, but since it is often in strawberry patches and has this habit, it would be quite the proper thing to do to see whether or not it does before it is accused of being there for the sole purpose of eating the berries. You doubtless are aware that this bird is accused of destroying more fruit than it wants to eat. The fact I have not been able to verify, but if it be true, it may be that it is in quest of larvæ hidden within, and that point should be definitely settled before the bird is condemned.

I have thus far called your attention to insects located upon the plants themselves, but nearly all of these species pass into an adult stage, during which they are upon the wing much of the time, some of them in the day-time and others in the evening or during the night. Birds have learned these habits, too, and certain groups of birds make it their especial business to secure those forms. Such birds are our swallows, the pewee and king bird tribe and the chimney swift. The swallows and fly-catchers feed only during the day, while the chimney swift or chimney swallow, as it is usually called, during the breeding season is out all night long in quest of food for its hungry young.

You have doubtless often heard this bird rumbling down the chimney at intervals during the nights. Now this division of labor which birds have assumed, in the face of the profusion of life from which they may choose, is conclusive evidence to me that the power which they exert over the abundance of insect life is far fron being inappreciable. What we need to aim at, then, in regulating the bird fauna

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of agricultural districts is to make it combine in sufficient abundance all of those species which do peculiar but important work. We need, in fact, to adopt just those divisions of labor which nature has been so long in working out, and, perhaps, without modification, except so far as changing conditions make it necessary that new relations should be established.

To expect the robin, with an unlimited abundance, to do the work of the kingbird or pewee, or that these birds can do the work of the vireos is absurd. Neither can the short-flighted, slow winged pewee and king bird, although they are fly catchers, be expected to do what the swallows are able to accomplish with their long, swift, gyratory and zigzag flights. Each species has fitted itself by long practice for its own peculiar work, and does it more effectually than another species can. Viewed in this light, it is evident that some birds, even though they may be somewhat destructive to particular crops, must, nevertheless, be protected, simply because they do an important work which other birds do not.

Under order of business the committee on Programme was appointed, viz.: L. G. Kellogg, C. H. Hamilton and Geo. J. Kellogg.

On motion the convention adjourned until 2 o'clock P. M.

Afternoon meeting called to order by President J. M. Smith, who then addressed the convention on the subject:

SHADE AND ORNAMENTAL TREES BY THE WAYSIDE.

When I consider how many thousands of the most beautiful trees of the different varieties we have in our forests, that only need to be transplanted and properly cared for, to made our highways beautiful and the farms made much more beautiful, as well as more valuable than at present, I am sorry that so little attention is paid to this branch of horticultural improvement.

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Of the varieties of our native trees fitted for this purpose, the elm undoubtedly stands at the head of the list. In fact, I am told that some European horticulturists have declared it to be the most magnificent shade tree in the world. But this high praise can with truth only be applied to one variety of them. We have in our forests four distinct varieties of elms, besides some that seem to be, and doubtless are intermediates. The Rock Elm is found only upon dry land, and has a tall, straight trunk, light colored, rough bark, and straight grain that splits readily. The top is small, the branches short, crooked, and unsightly, and it never makes a handsome shade tree, although valuable for timber. It sometimes grows very large; I saw one last summer upon the Michigan peninsula that was about five feet in diameter at the stump, and shot up at least sixty feet without limb or blemish of any kind, almost as true and round as if turned in a lathe. The Red or Slippery Elm is only moderate in size, has long, drooping branches, though not enough of that to make either an ornamental or a good shade tree. The Brook Elm is generally small in size, unsightly in appearance, and is one of the most utterly worthless trees to be found in our forests. Fortunately it is a rare tree, and is found only in swamps, or very wet places. Lastly, comes the majestic and beautiful elm of our towns and cities, and I wish I could say, so common by our road sides. It is fortunately, more widespread than either, or in fact than all the other varieties combined. Its native habitat is upon rather low, moist ground, although it will flourish nicely upon almost any soil except a swamp or a dry sand. It is easy to transplant, is a thrifty grower and a long lived tree. There are many beautiful specimens of it in the city of Green Bay, that have been set within the last twenty-five to thirty years. They have by no means yet reached their prime, although they add wonderfully to both the beauty and comfort of our city. To me it is a more beautiful and stately tree than the far famed Live Oak of the south.

Next to the elm come the maple. Of these we have two varieties, commonly termed the "hard" or "sugar" maple and the "soft" or "red" maple. The last is so named from

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its red blossoms appearing early in the spring. The hard or sugar maple is much the more desirable of the two. It is a slow grower, but is a beautiful tree in its foliage, almost from the beginning. In its form and in its dense foliage it resembles the magnolia of the south.

It bears transplanting well, and I know of no tree that better repays extra care and fertilizing than our hard maples. In the fall, after our first hard frosts, it assumes a gorgeous beauty not easy to describe. Many years since, during a beautiful day in the fall, I rode nearly all day with a friend along the slope of a mountain in one of the eastern states. A valley was upon our right and beyond it another mountain slope. Its sides were covered with timber of various kinds, and interspersed among them were clusters of the sugar maple in all the glory of fall foliage. For me to describe the beauty of the scene would be simply impossible. But the memory of that day will not leave me until I cease to remember the days that are past and gone.

The common linden or basswood is also a valuable shade tree. It is, when grown alone, rather cone-shaped, a rapid grower, of fine foliage, and when in bloom exceedingly beautiful.

Of the poplar family the whitewood and the silver leaf are the best; still I cannot confess to much enthusiasm for any of the varieties, and think that Thomas Jefferson was not in his most appropriate business when he introduced the Lombardy poplar into our country. They have been set by thousands in and about Green Bay, and if the same amount of money and labor had been expended in setting and caring for elms and maples, I verily believe that Green Bay would, to-day, have been the most beautifully ornamented city, of its size, in the United States. She has a very large number of beautiful shade trees; still much time and money has been wasted in trying to make something both ornamental and useful out of the Lombardy poplar, but the failure has been complete.

We have two varieties of ash. The black ash growing in our swamps and low lands is an ill-shaped and unsightly tree, almost invariably beginning to decay at the top as soon

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as it gets to be of fair size. The other variety, the white, or as it is often called the Blue Ash, is a beautiful tree. When growing alone the top is cone shaped, making a fine shade, and it is clean and altogether fine in its appearance. It grows rapidly, provided it has a rich dry soil, but will not do its best in any other.

The oak family is but little used for transplanting. It is more difficult to handle, a slow grower, and not as beautiful when grown as some of those already named. The shellbark hickory, when it grows alone, is one of the most beautiful trees in our latitude. In Brown county there are hundreds, and perhaps I might say thousands of them, that in form and foliage, would rival the far-famed magnolia of the south. In the form of the leaf, and shape of the top, they are very similar to it. But they are difficult to transplant and are very slow growers even at their best. Hence they are rarely used for this purpose. If one wishes to use evergreens for a portion of his wayside trees, there is nothing to me so beautiful as the white pine. There are clusters of them a few miles north of Green Bay that are certainly the most beautiful evergreen trees that I ever saw.

I have thus named some of the characteristics of what seem to me the most desirable trees for ornamenting our streets and highways. I have confined myself to our forest trees, because they are accessible to all, and cost but little beyond the labor of digging and hauling from their native home to the spot where they are wanted; and to me they are more beautiful than any of the imported trees that I have seen.

And now a few words about the time, place, and manner of setting and caring for them. The spring is with us the most appropriate time, and perhaps the earlier the better after the ground is in good condition to work. One of the worst faults of those in setting trees, is that they are set too close together. If elms are set 40 or even 50 feet apart and properly cared for, they will soon make a perfect shade and the branches be interlocked with each other. The other varieties named should be set closer, from 20 to 30 feet apart.

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HOW SHALL THEY BE SET?

I have sometimes thought that of all the neglected things upon some of our neglected farms, the poor shade trees, if indeed there were any at all, fared the worst. And even those, who in some repects are good farmers, are far from perfect in their treatment of their shade and ornamental trees.

In fact, they sometimes remind me of a little anecdote. A number of years since a tree peddler, who was making his way through one of our newly settled timber counties, called at the house of one of my friends, and as he had one of the finest farms in the county, and it was not well stocked with fruit trees, the peddler was determined not to be put off without making a sale. He told of the hardiness of his trees, and the great value of the fruit, and the certainty of large profits in connection with the fruit interest, until my friend told him that if the trees would stand his method of setting and culture he would purchase, and he could also sell to his neighbors.

The peddler wanted to know the method though he was certain his stock would stand the test. "Well," said my friend, "we take the young trees and an axe, and carry them out into a meadow that has never been plowed. It is a very heavy sod. We cut them back severely; in fact we cut the tops all off with the axe. We then cut off the roots and sharpen the butt to a point, drive it into the heavy sod ground, and leave it, and do not go near it again except to gather the fruit. As a rule our orchards are failures; but if your trees will succeed with this mode of culture, we want some of them." I have sometimes been surprised that the peddler did not give the guarantee and make the sale; but I presume that he was one of the modest and honest ones that we sometimes find engaged in the business, for he frankly confessed that he had doubts about his trees enduring both the climate and the treatment, and of course lost the sale.

My friends, I believe that you and I have seen trees set that were expected to become shade trees at some future day, that received but little better treatment than my friend proposed for the young orchard. And then the owners are

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very likely to complain that their trees do not grow. I have known a few men who were noted for being able to make trees grow under almost any circumstances. One of them, an eastern gentleman, was proverbial for the certainty as well as the rapidity with which he made his trees grow. But I do not now recollect of ever seeing a hole dug even for a small tree that would measure as little as two feet either in diameter or depth. But I do remember them as large as four feet in diameter and equally deep. The earth returned was rich and mellow, and when the young tree stood in its new home, it was, as a rule, a very much better one than that from which it had been removed. Nor was this all. The young trees were carefully mulched with coarse manure. If the weather was very dry they were watered.

Friends, I have worked in the soil long enough to become thoroughly convinced that whatever is worth doing in it at all, is worth doing well. This principle is as applicable to setting and caring for our shade and ornamental trees, as it is to growing strawberries or corn. I have neither the time nor the inclination to pursue this subject at length. My wish has been to bring it before you for discussion, merely touching some of the more prominent points and hoping that its discussion would do something toward showing its importance to our fellow citizens.

DISCUSSION.

A. G. Tuttle, of Baraboo, thought the elm tree the tree above all others. Hard maple comes next—needs higher trimming than it ever gets, as it makes too dense shade.

Mr. Smith would like more trees transplanted from the forests, such as elm, hard maple, and evergreens like the white pine.

Mr. J. C. Plumb thought that the soft maple should have a place, as it can be grown quickly. The hard maple will succeed anywhere in the north—the red maple is often mistaken for it.

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The next paper read was one on "Our Society," by B. S. Hoxie, Cooksville, Wisconsin.

Mr. Hill, of Rosendale, said they had an improvement society which grew out of a meeting of the State Horticultural Society there last summer.

An address was given by G. J. Kellogg, of Janesville, on the subject, "Strawberry Notes From the Patch."

During the discussion Mr. Hatch said that plants like trees of different varieties need different soils.

In the absence of Mrs. H. M. Lewis, of Madison, her paper, "Leaves, Nothing but Leaves," * was read by Mrs. Powers, of Appleton.

Prof. Trelease's paper was omitted as he was not present.

Mr. A. L. Hatch said the society must be resorted to when difficult qustions were to be solved.

Mr. Hatch said that a sprout from a strawberry cannot be got that differs from the genuine, for its individuality must remain the same.

Mr. Plumb said that by a little change of circumstances a fruit could be greatly changed for better or worse.

Adjourned until eight P. M.

Meeting called to order by President Smith, at 8:25 P. M. The question was asked, "Of what use is the tree peddler?"

Mr. Hoxie said they supplied some new trees; they seemed to be a necessary evil.

A paper was given on

THE BLACKBERRY AS A MARKET FRUIT.

By C. H. HAMILTON, of Ripon, Wis.

By request of our local society I will endeavor to read to you a short paper on the blackberry. I will acknowledge at the beginning, that this to me is rather a thorny undertaking, and as the subject of the cultivation of the blackberry as a market fruit, is engrossing the attention of the public in this and other portions of the state, I will endeavor

* Printed in Transactions of the Agricultural Society.

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to consider the blackberry as a market fruit. I will give you a few practical hints as to the mode of cultivation and care of this small frait, a branch of the rose family, that is assuredly entitled to respect, when it is remembered that the blackberry is the blackest sheep in it. The bush is, in truth, what the ancients called it, a *brarble,* and one of the eastern Highland wild cats could scarcely scratch more viciously than it, if treated too familiarly.

But with judicious respect and good management, it will yield large and beautiful berries, fruit that will give a person the encouragement that his labors have amounted to something, as he views with pleasure the *fine* specimens hanging in large and beautiful clusters upon his well cared for vines. It would seem that nature had given her mind more to blackberries than to strawberries, for instead of merely five species she has scattered about one hundred and fifty species up and down the globe. To undertake to describe all of these would be a thorny experience, indeed, and not being qualified to undertake a task of such magnitude I will leave you to search out, and be satisfied that it would rob the hearer of his patience as completely as he would be bereft of his clothing should he literally attempt to go through them all.

Having had some considerable experience in planting and the care of the blackberry, I will endeavor to explain to you how to plant and care for them, and, as no one man as a general thing cultivates and uses the same modes, I hope that by comparing notes we may be enabled to handle this black sheep without gloves. The treatment of the blackberry can best be induced by merely noting, where in its requirements it differs from the raspberry and kindred fruits. It seems to do the best on light soils that are warm and well drained. In preparing your ground, select a piece that is not so low that water will settle upon it, as water will most certainly kill or injure the plants. The question is often asked shall we manure the ground? Certainly, as the blackberry luxuriates in good soil as well as a crop of corn or other crops; it seems to show an appreciation of high manuring and cultivation by throwing up a strong stocky cane, as the

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blackberry in its wild state seems to be found thriving on land that is sandy or very light. Is it not here where many of our hardy kinds may originate and do well and be taken up and put on soil of same nature. Ripening in the woods and seemingly a prize worth the while to be heralded all abroad as something hardy, it has stood thirty or forty below zero. But when this variety is planted in heavier and damper soil, there is where we miss the points of hardiness that we desired. When the variety is found that after being transplanted into our gardens and cultivated, that will stand our Wisconsin changeable winters and bear good crops upon all the different soils without protection, we may well cry Eureka. I do not think we are fully justified in saying that this or that variety is a humbug in blackberry or strawberry till we are familiar to some extent at least, as to the quality or kind of soil that it does thrive well upon, but where plants are protected if the land is not so, that water settles upon them and they receive good care, I have as yet to see the ground that the blackberry does not thrive upon, and amply repay for all labor and care bestowed upon it.

More room should be given the blackberry than the raspberry. In planting blackberry, for field culture, plant in rows seven feet apart and plants three feet apart in the rows, which will enable you to cultivate easily. They need to be cared for by cultivating and hoeing the same as you would a piece of corn. The season having been favorable, you will likely find that with a few exceptions you are progressing towards a foundation or start in blackberry culture. But after the first year is passed in the culture of the blackberry, and you have every hill well established, comes the time which is of vital importance to the fruit grower. It then stands you in hand to look after and take care of the new wood which is your promise for the fruit crop the next year. At this stage of growth they require support and may be staked or be supported by setting a post at the end of each row and at equal distances along the row, and stretching a small wire along on each side of the row, which answers for a support to the fruit canes and the new shoots which are apt to be broken by the wind. The ideal treatment of the black-

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berry is management rather than culture. More can be done with thumb and fingers at the right time than with the most savage pruning shears after a year of neglect. Three to four feet is considered a fair average height to nip back the new growth. If we were living in a warmer climate where we were not liable to the severe changes that we have here in our somewhat northern climate, the labor in blackberry culture would be comparatively nothing.

Here in this latitude to insure a crop it is necessary to protect the plants, and to those unacquainted with the mode of laying them down, the task is thought far greater than it really is, for two good men will lay down and cover 1,000 of them in a day. It may not be amiss to explain briefly the mode of laying the plants down, as is practiced here where blackberry culture is a success.

Beginning at the end of the row, we will say running north and south, we dig away a small quantity of dirt on the north side of the hill, with a garden fork, which is less liable to injure the roots, than with a spade. We step to the opposite side of the bush, placing the foot at the crown or close to the ground, and the fork in the top of the bush. We push lightly with the fork, and with the foot hard enough to bend the roots, not the tops, and in less time than it takes to write this, the bush is nicely secured and covered ready for a long cold, changeable winter. When spring again comes, take a four-tined fork, loosen the crust, and placing your fork under the plant raising up and press the dirt back firmly where you had taken it out. In the fall your bush will again look as it did in the fall. After the row is all taken up, string your wires at *once, if possible,* and your vines are protected from the winds. Then we wait the prospects of the coming crop, which in my experience in handling for the last six years, and from my observations of the last twelve, I have never seen a failure.

It may not be amiss to name the variety which is chiefly raised in this vicinity with success. The variety is the Ancient Britton, which was first sent here from Wales to a gentleman in the southern part of this state. I think there were less than a half dozen plants, and now after eighteen years

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of trial in different localities, we will place it at the head of anything that has been tested as a shipping berry as to productiveness. And as to hardiness, it will compare well with anything as yet tested in this vicinity. As to the profits in the cultivation of the blackberry, we are sorry to say that we have not the exact amounts that have been raised, but from 4,000 to 5,000 boxes is about an average yield per acre. The amount that may be raised is certainly enormous, and as yet the supply is far from filling the demands, and the demand is increasing, and it is a pleasure to ship for they are sure to arrive in good order, unless our express companies handle too many.

I think that the price that has been received for the fruit in the market will average in the last four years at about twelve and one-half cents, and during the last season I think there were but a very few cases that sold for less than seven cents, and the year before the crop was mostly sold at eighteen cents.

As this paper has already taken up considerable of your time, I will close by extending to you an invitation to look over our different fields of growing blackberries, and view the signs of promise in the blossoms and partly grown fruit.

DISCUSSION.

Mr. Hamilton said he cut his bushes within three and a half feet from the ground, put his posts about two rods apart and his wires about twelve or fourteen inches apart. Takes out the old canes as soon as the fruit is off the vines.

Mr. J. C. Plumb said a new way is being tried, by clipping the vines two or three feet from the ground, not wiring or laying them down during the winter. For ordinary farmers, thinks this the better way.

Mr. Hamilton had tried this plan and it had failed; too much labor and expense to give a stake to each vine.

Mr. Pilgrim, of West Granville, thought that a point had been gained, viz.: that blackberries could be raised with success. They must be laid down in winter.

Mr. L. G. Kellogg's experience had been the same; he

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would clip at two and a half feet, and the side branches one foot.

Mr. A. L. Hatch said he could not afford to grow them in that way. It is a question of locality, largely; could not afford to clip and trace up vines, but must clip them shorter, and not bury them, but turn soil against them by horse power.

Mr. B. S. Hoxie argued against the theoretical remedy as given by Mr. Hatch.

Mr. Hatch said that he had had experience.

Mr. Plumb had tried Mr. Hatch's plan and succeeded. It is the best for his place.

The next paper read was

RECREATION AND EMPLOYMENT FOR WOMEN.

By MISS IDA E. TILSON, of West Salem, Wis.

American people are fast livers. As children they are in a hurry. The popular school-teacher is she who promotes most rapidly. Pupils cram with feverish eagerness for examinations, and talk less of a well-rounded education than of passing into higher classes. They enter society young, and grow prematurely old. The climate is peculiarly stimulating. Thousands of fertile acres west are given away for the asking. Excited emigrants thither load trains and fill hotels. Every day there comes the shock and pain of parting with friends. Omnipresent telegraphs and newspapers, every day tell the people the murders and accidents in two hemispheres. Advertising devices weary by their number and pertinacity. A late *Sunday School Times* truly said "Our fathers dwelt by a quiet pool, we have ever the roar of an ocean in our ears." Even fashion has its fierce competitions.

It is a saying "as well be out of the world as out of fashion," certainly as well be out the United States. Parisians, though they invent the fashions and coax away the dollars, themselves use far plainer furniture, food and clothing. American families of but moderate means, go through one round

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of twisting, turning, planning, and economizing to keep up appearances. Is it strange that insane asylums are numerous, spacious and well-filled, or that new varieties of nervous diseases are constantly being discovered? Herbert Spencer has given his word of warning. Women, with their sensitive and delicate organizations, are perhaps greater sufferers than men, and especially need relief and recreation.

The usual agency employed to relieve overstrained nerves, is a multiplication of artificial amusements which but continues the fatal excitement. Where accessible, theatres and operas are crowded. Can glare of lights and gay costumes, constrained sitting, late hours and appeals to emotion, prepare one for repose? Does reading high-pressure novels, whirling in the dance or jolting in the cars give tranquility? There may be intellectual or artistic merit in these entertainments, but not rest. If recreation is to renew, or refresh, it must supply what every-day occupations do not, natural, unstudied pleasures. The average woman is confined within doors much more than the average man, and her work is more monotonous. Her recreation, therefore, ought to be out of the house and away from dull routine.

A physician, coming into Wisconsin at an early day, was told there would be no business for him. "I will wait," he replied, "till folks finish off their houses, furnish, and shut them up; then I'll have business." In well-ventilated rooms there is liable to be some carbolic acid from breaths, or drain and cellar germ-life, or dust of disintegrating walls and furniture, or too much shade. Pure outdoor air has never had a reputation for making people sick. Sunshine itself, is a highly recommended medicine. Communion with nature constantly brings one into contact with fresh air influences. The earth is forever sweeping on to new positions in space. There are never two days, nor two sunsets, nor two trees precisely alike.

Horticulture furnishes forms of enjoyment not properly utilized by women. A well-arranged yard is as convenient as an orderly house. People who raise their own vegetables and fruits, can have them when they are firm but not unripe,

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and juicy but not decayed. They will eat their greens earlier and oftener than one dares who purchases at market prices. Lawn mowers, garden rakes, and hoes, are not beyond the strength of a creature that can roll pie-crust and wash clothes. Gathering and planting seeds is light work. Women have just the promptness to insure success in early gardening. It does not require genius to graft and bud trees. Several women have practiced this art successfully, one of whom has lately written on the subject an interesting article for *The Youth's Companion.* A fine flower-bed permits its owner to enjoy the luxury of giving. Its lovely blossoms will not only decorate home tables and mantels, but also ornament the house of God, cheer the sick-room, and soften death's hard outlines. Not all can offer costly gifts, nor does every one care to be under obligations for such. Flowers and fruits make delicate and inexpensive presents, which any one may give or freely accept. A walk or ride is soon over, pies and cakes disappear with alarming rapidity, dishes have to be rewashed three times a day; but flower beds are bright for weeks, and tasteful grounds grow in beauty with years.

Those excellent outdoor exercises, riding, walking, and croquet, already accepted and appreciated, whose claims, therefore it is not so necessary to urge, they are very delightful when horticulture has preceded them. Pleasant streets and roads are always resorts. Visitors and friends are taken to see them. And in proportion as such places grow more handsome, are they more frequented. Croquet and kindred games are hardly practicable without a smooth lawn. Convenient seats often allure one into a game. The possessor of a garden plot frequently inspects its flowers and fruits, and whoever has a vine and a fig tree of her own, naturally rests in their shade. Thus horticulture not only brings its rewards, but brings people out to see what those rewards are.

If possible, every person ought daily to learn something new and valuable though not necessarily from books. "It is not all of life to live." Unfortunately, many a woman's education is finished in her teens, just when she is beginning

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properly to study and think. Horticulture summons many sciences to its aid, and combines with recreation fine intellectual opportunities. The habits of plants are learned, the nature of soils, the effects of moisture and heat, and the depredations of insects. Without knowing it, one becomes a botanist, a geologist, a meteorologist and an entomologist. Chemistry teaches how to compound and where to apply fertilizers, and explains why some of them are potent at once, and others only in time. Isaac Newton watched a falling apple and discovered that great law of gravitation which governs myriads of worlds. The wonderful machines for farm and garden use, inventions mainly of practical workmen, are often but extended applications of principles in natural philosophy. To discover laws of nature and habits of plants and insects, there must be close and long-continued observation. By the time the facts are gathered there will have been much excellent mental exercise and discipline besides. So great is the variety of grasses, plants, trees, flowers and fruits, that there is as much scope for judgment and taste in arranging yards and gardens, as in designing and painting pictures. Landscape gardening indeed rises to the dignity of a fine art. To be sure, one may ignorantly plant and successfully gather, yet such is not likely to be the case.

Women are expected to be the teachers of refinement. They ought, therefore, to fit themselves for this work in God's great normal school of beauty. A story is told about a plant, which was given to a poor family, who could not see it through their dirty window, and in consequence washed the glass. Then the room, by contrast seemed grimy and was cleaned throughout. The flower looked so well they added other adornments to their home. Neighbors caught their enthusiasm, and ultimately the aspect of a block was changed by the ministry of a flower. "Picciola" relates how Count de Charney, gay, accomplished and skeptical, being cast into prison, was cured of his moral and physical disorders by a little plant, which achieved what neither books nor men had been able to do. The prisoner wrote on his cell wall, "Chance is the sole author of the creation." A flying dove dropped a solitary seed into his prison yard; the

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seed was trodden under foot, but a fleshy envelope affording protection to its first, tender leaves, helped the plumule through the hard crust above it. A frosty night came; the thick bristles upon its stalk were covered with rime, but the plant itself was uninjured. Hail fell, and its leaves closed about the stem, presenting a series of points only. Though nourished by the same soil, peduncle, leaves and blossom, each in some way appropriated its hue, when high winds blew "perhaps" to what he had written before on chance. Ill, a devotion of the leaves cured him. Erasing all that was on his cell wall, he then wrote: "I believe in Providence." In one severe storm he stationed himself near his favorite, and, bending over, devoted himself like a lover, to its protection. The coarse, rough jailor became interested; he even matured the plant, and removed one of the flag-stones which hindered its growth. Visitors heard the story. The Empress Josephine was petitioned for Charney's release. Now Josephine was an enthusiastic admirer of flowers; she therefore became Charney's willing advocate, and he was soon liberated, it is needless to say, a changed man. A faded blossom, in a valuable locket, long told the story to his descendants.

Mr. A. L. Hatch said that the people had come out of town at great sacrifice. He asked that all, including the people of Ripon, should ask questions and give their views.

Adjourned.

JUNE 29, 1883, 9:30 A. M.

Meeting called to order by President Smith.

Mr. A. G. Tuttle opened the discussion on the apple question. A practical fruit grower, he had been trying to get a class of apples adapted to Wisconsin. Believed that it could be done. Russian apples are perhaps the best for us, as the Duchess of Oldenberg. Fifteen years ago he got some varieties from Russia, and later again the same. In 1870 the Governor imported several varieties. He has many varieties as hardy as the Duchess of Oldenberg. An early apple the White Transparent, or the Yellow Transparent which surpasses any other in the country in quality. Arabian, and the Alexander are also a good class, but the latter is

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subject to blight, which they will out-grow in time. The Longfield is a very large tree, an excellent bearer, the apple good, good showing for fruit.

The Pewaukee is the best tree to plant for market purposes. Golden Russet is the best late bearing apple this year. Talman Sweet has done nothing for ten years.

Mr. W. T. Innis, of Rosendale, said that the Talman Sweet is not bearing this year, but last year did heavily.

The English Golden Russet had been a great success with him. The best fruiting trees are the old kinds.

Mr. Peffer said the Walbridge was an excellent keeper, but needs rich soil, and dry air, or it will mildew.

An address was given by A. L. Hatch of Ithaca, subject "Stray Thoughts."

After a few preliminary remarks on the general merits of agriculture, an interesting discussion was opened on the pruning of grape vines.

Part of the state has glacial drift, and part granite soil. Different kinds of fruit, particularly apples, must have soil adapted to its wants.

The following committees were appointed by the President:

Committee on Strawberries — J. L. Fish, D. T. Pilgrim and Geo. C. Hill.

Committee on House Plants — C. H. Hamilton, Rev. S. M. Newman and E. Babcock.

Committee on Vegetables — B. F. Mason, W. O. Hargrave and J. L. Pasco.

An address was given by Mr. J. C. Plumb, Milton. Subject: "Retrospect and Prospect."

A statement was made by Mr. Plumb on the present relation of the association to the state. By an act of the last legislature the Society was limited to 200 pages in the publication of their reports, and to 500 volumes, in place of 2,000 as before. The appropriation to the Society remaining the same, viz., $500 per annum. The size of the agricultural report has also been doubled, making them unwieldy, and delaying their publication still more. C. A. Willard said that officers of the association should be present at the legislature to secure what the association needs.

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President Smith said the legislature was not asked for such an act, no officer knew about it.

Mr. M. Anderson said the legislature meant to benefit the Society. He thought the present arrangement better. The large size of the volume was really no objection.

Mr. Plumb said that he did not wish to cast a slur upon the legislature, but since we had manipulated in favor of the other societies, the legislature was perhaps not to blame.

Mr. Kellogg said that a protest should be entered and probably the association could get what it wants in the course of two years.

Adjourned.

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2 P. M.

Meeting was called to order by President J. M. Smith.

The next paper was "The Native Place of Our Exotics,"* by Mrs. C. F. Tracy, of Ripon, Wisconsin.

Following this was a paper read by Mrs. C. A. Willard, of De Pere. Subject, "The Distribution of Seeds."

Mr. A. L. Hatch said the two papers presented were of much practical value to all horticultural workers.

Mr. A. G. Tuttle said that he had always enjoyed the ladies' papers.

Mr. Hoxie said that cabinets of minerals, growing plants, etc., should be placed in every school house. This would not be expensive, and would be beneficial in many ways.

Mr. Plumb said the Wisconsin Horticultural Society has the honor of introducing the productions of the ladies on horticultural and kindred subjects. The time should come when every child could name every plant and tree in his vicinity.

The following resolution was read and adopted:

Resolved, That we invite the ladies of Wisconsin to become members of the State Horticultural Society.

Mrs. E. Y. Richmond's paper was read by her daughter, Mrs. Eva R. Powers, of Appleton, subject, "The Curse of Gold."

Mrs. D. Huntley read a paper, subject, "How to Adorn our Homes with Plants and Vines."

*Printed in Transactions of the Agticultural Society.

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It was moved and carried that a vote of thanks be extended to the ladies who had read papers before the association, and that they become honorary members.

Rev. Mr. Loomis, of Rosendale, said that the result of the meeting of the association at Rosendale last year, was the organization of a society for literary and scientific advancement, held twice a month, with an average attendance of twenty-five.

Rev. Mr. Newman said, five years ago the streets of Ripon were full of cows, trees were barked and broken, and gates could not be left open. A change had come over the place, fences were coming down, lawns were improved, and trees were appearing everywhere; and they intended keeping up the enterprise. The Horticultural Society needs the support and loyalty of all our people. The knowledge gained is very valuable, and he prizes the reports very much.

Rev. Mr. Cooke was glad that the Horticultural Society had had an opportunity to visit the beautiful city of Ripon at such a favorable season of the year.

The following resolutions were adopted:

WHEREAS, Horticulture is an industry and an art most intimately connected with our advancing civilization, and worthy of a most cordial support in every community; therefore

Resolved, That the summer meeting of the Wisconsin State Horticultural Society has been one of the brightest and best of the series, and long to be remembered. Its memory to be treasured as a green spot in life's journey.

That we, the members of the State Society, and lovers of Horticulture from abroad would express our hearty thanks for the cordial reception given us at the homes of the good people of this city, in return for which we will wish them to escape summer drought and unseasonable frosts, with many days of summer blessedness, and with full maturity of the best fruits of their goodness and of their lives.

That the fine exhibition of plants and flowers, here presented, are sure indications of a growing love of horticulture, and the possibilities which we trust you will reach in the near future, under the inspiration of this meeting.

That we tender to the Chicago and Northwestern, and the Chicago, Milwaukee and St. Paul Railway Companies our thanks for the favor in the return of our members.

J. C. PLUMB.
M. ANDERSON.
MRS. C. L. TRACY.
Committee on Resolutions.

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Also, be it resolved, That we, the members of the Ripon Horticultural Society and citizens of Ripon, would express to the State Horticultural Society our hearty thanks for the sessions of the Society with us at this time, and for the pleasant social meeting, with the friends from abroad, and in parting, we would say come next year and we will give you a most cordial welcome.

MRS. C. T. TRACY,
Of the Committee.

The question being asked, What has the winter done for us? Mr. Kellogg said, many trees in the nursery were killed.

Mr. J. C. Plumb said that it was owing to the rain in the fall before freezing up in the winter. One tree which he knew split open its bark in the winter, and then lost its bark in the spring. The trees must be grown so as to mature the wood before winter.

Mr. A. G. Tuttle said that the winter had taught him that he must have more hardy trees. His grapes had all stood exposed during the winter, and had lived and were thriving. Moore's Early is a very hardy grape, larger and a little earlier than the Concord.

Mr. Peffer said his trees died because of injury to the foliage by mildew. They have even lost their leaves in August and then died.

Mr. Hatch thought apple trees would rarely stand 30° below zero without impairment of their vitality and perhaps killing them.

Mr. Jeffrey, of Milwaukee, said that the Pewaukee had stood the winter, but the Walbridge had not. Talman Sweet had stood it well. He ascribed it to ashes which he had placed around his trees. His Golden Russetts had come through very well. Raspberries had stood it well, afterwards not so well. His grapes had blossomed full. His Zanesvilles and Concords were his best old vines.

Adjourned.

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8:20 P. M.

Meeting called to order by the President. The question, "What has our winter taught us?" was further discussed.

Resolved, That owing to the great increasing injury done our general farm crops by the white grub the time has come when we should do something if it is in the line of the possible to destroy them, or at least prevent their increase.

During the discussion the statement was made that the land must not be kept seeded down for more than two years, if it was desired to get rid of them.

Mr. Pilgrim thought salt a benefit to the land, also destructive to the white grub.

Mr. Anderson said that if salt enough was put on the land to kill the grub the growing crops would be killed.

Mr. Hargrave's experience with the grub was that salt would not kill them.

Mr. Anderson said that to keep cattle from bloating on clover plenty of ashes and salt must be kept before them.

Mr. Plumb thought late fall plowing would destroy the white grub. They may also be destroyed by poisoning the beetle.

The question, "How can we regulate the size of our fruit boxes?" was then discussed.

The next question was, "How can we get our fruit handled more carefully on the railroads?"

Mr. Hatch thought by showing courtesy to the officers and employees of the road.

The following resolution was adopted:

Resolved, That the President is authorized to sanction, and the treasurer to pay, all railroad bills of the regular members, and of those ladies who have read papers at this, the December meeting.

On motion, the Society adjourned *sine die*.

L. G. KELLOGG,
Secretary Pro Tem.

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SPECIAL HORTICULTURAL SOCIETY MEETING,

CAPITOL, STATE FAIR, September 12, 1883.

Called to order at 7:45 P. M.

President Smith in the chair — twenty to thirty members present.

President Smith remarked that the fruit crop was so poor in quantity and quality this year that it would be impossible for the Society to make a creditable display in December, as decided on last year, and asked the opinion of the members present on the question.

Mr. Adams reported little fruit in this part of the state, and almost nothing about Madison. He thought a good display doubtful, although in a few sections there is some little fruit.

Mr. Olds felt that in his section there was not fruit enough to justify an exhibit, and had heard similar reports from all sides. The largest picking he knew of was eight bushels St. Lawrence from two trees — a very poor yield. He also reported that nearly all the eastern favorites are dying off. Leaf blight, though bad, is not quite so bad as in 1882. Ben Davis is fairly good.

Mr. Tuttle reported that we cannot make a display of winter fruit. Fall fruit is very poor, but there is no winter fruit fit to exhibit. He had not a barrel of merchantable Fameuse, though this has been a very profitable variety for him. The trouble is the scab, which was also very troublesome last year. He attributes this to moisture on the leaves, etc. Among grapes, the Concord, even, now rots and mildews very badly. Since dry weather has set in these fungoid diseases are disappearing. Duchess and Alexander have come through perfect in fruit and foliage, in all sorts of exposure, on clay loam. He advises that no attempt be made to hold a December exhibit.

Mr. Wood moved that the fruit exhibition at the December meeting be omitted.

The motion being seconded, Mr. Plumb said that it would be very discouraging to vote down the winter exhibition,

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and thought it best to authorize the Executive Committee to make a suitable offer of premiums, to call out a display from the Green Bay region, where the conditions for fruit growth were better than here. If there were *any* chance for an exhibit, there ought to be a provision allowing it to be secured then.

Mr. Hoxie favors holding a winter meeting. He thought we would find that some fruit is very good, if we tried to bring it out.

Mr. Peffer thought it unneccessary to call for an exhibition unless we should learn now that it is likely to be successful.

Mr. Huntley thought that county could do very little. Though there is some summer fruit, there is very little winter fruit.

Mr. Hirschinger said that there would be good specimens of winter fruit in this county. Golden Russets and Ben Davis will be good when they have finished their development.

The society ought not to be expected to make half as good a display as it did last winter.

Mr. Philips had favored this exhibition but his fruit had failed. He has no fruit that will do credit to his section. He feels that no one from his part of the state can exhibit. He favors dispensing with the exhibit.

Mr. Tuttle reports that the leaf disease and the same show of blossoming, followed by a failure to fruit, is reported from New York and New England this year.

Mr. Jeffrey has some fruit that will keep, and had intended to exhibit it in December. He is willing to go with the majority, though for personal reasons he should like to have the exhibit attempted.

Mr. Palmer has no fruit, nor have his neighbors.

Mr. Wood remarked on the harmony pervading the meeting on this subject. He recommended, however, that a part of the premiums be offered for the *scabbiest* apples, to allow of a reasonable competition.

Mr. Plumb remarked that there was clearly something in the way of our meeting at Green Bay next winter, and as

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our President seemed disposed to discourage the appropriation, he thought we ought to dispense with the display.

Mr. Smith said that he wished it understood that although he thought it undesirable to hold the exhibit, he did not wish to influence the society, and should do all in his power to make the meeting a success, if it was decided on.

The motion was carried.

Mr. Hoxie then moved that the December meeting at Green Bay be dispensed with.

After the motion was seconded, Mr. Tuttle said that in his opinion it is important to hold a convention at that time, and if any members have fruit to show they can exhibit it, although no premiums are to be offered. Fruits in Wisconsin should now be fully and freely discussed. He has full faith that Wisconsin is to be as successful an apple state as Michigan, when we discard unreliable varieties and rely on those which are certain. There are such varieties.

Mr. Hoxie thought that now that the proposed fruit exhibit has been abandoned, a meeting at Green Bay would detract from the annual meeting in Madison. The Agricultural and Horticultural societies by combining, ought to make the annual meeting unusually successful, if the Green Bay meeting were not held. He agreed with Mr. Tuttle that the orchard is badly in need of discussion and revision.

Mr. Palmer agreed with Mr. Hoxie. He thinks that a display of what we have, at the annual meeting, would be desirable, even though it were poor. He reports the Roman Stem as a hardy and very satisfactory variety with him. They have done well with him since 1850.

Mr. Adams suggested that the proposed meeting at Green Bay would undoubtedly call out a local attendance that would be of benefit, and favored the holding of such a meeting, as carrying out a plan previously proposed by the Society.

Mr. Huntley agreed with Mr. Adams.

Mr. Stickney thought the meeting should be held at Green Bay, because of the good it would do in making the work of the Society generally known. He suggested that if we do not decide not to hold the meeting, each member should

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make it a personal duty to attend it. He favors the union of the Society with local societies in meetings throughout the state.

Mr. Plumb does not feel that it is wise for us to now decide against the proposed December meeting. He offerred as a substitute for the motion under discussion, the following:

Resolved, That the executive committee be authorized to arrange for a meeting in December wherever they may deem best.

This was seconded.

He remarked that by withdrawing our proposed premiums we have forfeited all claim on their hospitality, and there may be reasons why we should hold this winter meeting at some other point.

By vote, the substitute was lost.

The original resolution to dispense with the December meeting at Green Bay was then carried.

Mr. Plumb moved that the executive committee be instructed to provide for a December meeting north of Madison, in case they decide that this will be advantageous.

The motion was carried without discussion.

Mr. Hatch then expressed himself as follows, on the part of ladies in our conventions:

"As co-workers in creating and maintaining homes, and as co-laborers in much of horticulture, ladies have been recognized as appropriately entitled to a place in the conventions of the Wisconsin Horticultural Society. As usually conducted there are times in the meetings when gentlemen are transacting business and discussing field topics relating to the orchard and vineyard, that the ladies are neither interested nor entertained. At such times, if properly arranged, the ladies could hold adjunct meetings for the consideration of subjects of interest to themselves but not of general interest to gentlemen. The idea is one of propriety and courtesy—not of separation and discord. Let a programme be arranged so that while gentlemen transact business and discuss men's work, ladies can at the same time and at another place discuss topics of interest to ladies alone, thus: for gentlemen, field topics and business; for the ladies, floriculture and home subjects; for both ladies and gentlemen, subjects

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of mutual interest, such as picking and handling fruit, gardening, influence of horticulture in homes, etc.

To bring out discussions among ladies, an exhibit of a few samples of canned and preserved fruits, kitchen tools, and ladies' implements for horticultural work would be valuable."

Mr. Toole thought that if this could be carried out it would be well; but he thought that joint attendance at the discussions is advantageous to both ladies and gentlemen.

Mr. Philips was afraid that any such action as that proposed might cause a separation of the ladies from the Society.

Mr. Toole favored Mr. Hatch's plan, but thought it would require much thought to prepare a suitable scheme. He hoped that the time would come when the ladies' papers would not be lumped together as now.

After some further remarks, the Society adjourned at 9:20 P. M.

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PROCEEDINGS

AT THE

WINTER MEETING

HELD BY THE

Wisconsin State Horticultural Society,

AT

GREEN BAY, Dec. 19–20, 1883.

In accordance with a resolution of the Executive Committee, passed Sept. 13, 1883, the society convened for its extra winter meeting and fruit display in Klaus' Hall, Green Bay, Dec. 19, at 10:30 A. M., President Smith in the chair.

A fair attendance of members of the state society was remarked, and delegates from the following societies reported:

Minnesota Horticultural Society.—Sec. Oliver Gibbs, Jr.
Oshkosh Fruit Growers' and Market Gardner's Club.—President J. P. Roe.
Markesan Horticultural Society.—Hon. Samuel Barter.
Fremont Horticultural Society—Prest. C. F. Eaton.
Waupaca County Horticultural Society—Wm. A. Springer.
Janesville Horticultural Society—Geo. J. Kellogg, Emily L. Kellogg.
Brown County Horticultural Society—Wm. F. Dougherty.

Mr. Pilgrim moved the appointment of the usual committees.

The motion being carried, the following committee was announced:

Resolutions and Toasts—J. C. Plumb, B. S. Hoxie, Mrs. H. M. Lewis, D. Huntley.

On the recommendation of the exhibitors of fruit, the following judges were appointed:

Seedlings—Oliver Gibbs, Jr., J. C. Plumb, B. F. Adams.
Other Fruit and Flowers—A. G. Tuttle, D. T. Pilgrim, J. P. Roe.

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The secretary, being called on for a report on the relations of the Agricultural and Horticultural societies, presented the following statement:

"On the 22d of November, I called at the office of the secretary of the State Agricultural Society to arrange for the two or three horticultural papers that we had expected to have at the convention next February. As I understand it, these joint convention programmes have not usually been arranged until some time later than this; but I was informed that this year the programme was already complete at this time, the appointing of a winter meeting at Green Bay having been interpreted by the Agricultural Society as a withdrawal on our part from the customary joint convention. I explained to Mr. Babbitt that the Green Bay meeting had no relation to that in February, except that it was expected to relieve the joint sessions of the long fruit discussions that have heretefore followed the horticultural papers. I also told him that in my estimation neither society would gain by a separation at this time, and requested him to see if room could not still be found for the papers that should represent the Horticultural Society. When I left the office I understood that the secretary could make no alteration in the programme, but that some action tending to this end might be taken by the executive board of the Agricultural Society at its settling meeting, to be held early in December; and if the societies were not to meet together, the fact would not be made public before that meeting. Imagine my surprise, therefore, at reading the following statement in the *State Journal* of the next day (November 23d):

FARMERS' CONVENTION.

The State Horticultural and State Agricultural societies will hold independent meetings this winter for the first time in their history, though why the change is made is not stated. The Horticultural Society rather withdrew from the combination, by deciding to hold its meeting at Green Bay upon the 19th and 20th of December, while heretofore it has been held in this city. The Agricultural Society intends to hold its meeting in the capitol during the first week in February, as usual, and preparations are already in progress which indicate that it will be one of the most successful in the history of the society. Beginning upon Tuesday evening, it will probably continue throughout nearly the entire week. The pro-

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gramme is to be varied and will possess some features which will lend the charm of novelty to it.

Miss Francis E. Willard, of Jackson, Michigan, President of the National Woman's Christian Temperance Union, and a lady who is celebrated throughout the length and breadth of the country as an eloquent advocate of temperance, has been invited by the State Agricultural Society, under whose auspices the convention is held, to lecture upon the subject of "Temperance and Amusements at State and County Fairs," and as the occasion is an excellent one for the dissemination of temperance doctrines, it is expected that Miss Willard will gladly take advantage of it.

A cordial invitation has been extended to Miss Ella Wheeler to read an appropriate poem, and it is expected that H. P. Armsby, professor of agricultural chemistry in the State University, will, as he is invited to do, speak upon some subject of his own selection. Prof. G. E. Morrow, of Champaign, Ill., a gentleman who has a reputation as an able agricultural writer, is to be present, if possible, and deliver a lecture. which will be of special interest to stockbreeders, upon "The Fat Stock Show and Its Lessons." Other prominent persons have been invited to take positions upon the programme, and everything indicates that the convention will be unprecedented in point of excellence in the history of farmers' meetings in this state.

This information was afterward said by the *State Journal* (Nov. 28) to have come direct from the officers of the Agricultural Society, and it was immediately carried to the *Western Farmer* by the Secretary of that Society for further publication. Since its circulation numerous statements have been made by members of the Agricultural Society, including its president and members of its executive committee, which place the responsibility for the present relations of the two societies entirely on their respective secretaries, and as much regret appears to be entertained by that society as by our own. This being the case, I have felt it necessary to state the facts plainly, in self-defense, although personal friendship for Secretary Babbitt would have rendered it pleasanter not to make them public. It has been thought by members of the Agricultural Society that a proper desire for co-operation has not been manifested by myself, in that I have spent very little time in the Agricultural rooms at the capitol. I regret this impression very much, but, as the members of this society know, I have not even a desk in the capitol, and we shall not have an

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office there until the new wings are finished. For this reason I have been in the capitol only when I have had temporary business there; but the fact that most of my time has been given to my business elsewhere has not prevented me from taking a lively interest in the mutual work of the sister societies.

From what has been said it appears that the rejection of my proposal for a share in the February convention was unauthorized by the Agricultural Society, but as yet that society has taken no steps toward giving us such share in the approaching session. It may intend to do so yet, but my absence from the state until a few days before the opening of the convention will now render delays inevitable, and may prevent any satisfactory arrangement from being made. It will, therefore, be well for this society to take some action expressing its views as to the desirability of arranging an independent programme to be carried out in connection with its annual meeting this year, in case no joint convention is held; but I trust that no action will be taken which shall preclude the arrangement of a joint session in case the Agricultural Society shall desire it. If that society sustains its secretary in his action, we may feel that we have just cause for withdrawal, but I do not think that it can wish to allow an evident mistake to interrupt the harmony which has so far existed between us, and I know that I voice the sentiments of this society in saying, as I did to Mr. Babbitt, that we have no wish to withdraw from the common work that both are trying to do.

On motion of Mr. Plumb, these reports were ordered published.

Several members then spoke briefly on the subject under consideration, most of them favoring the continuation of the old plan of holding joint sessions, and expressing the belief that, as a whole, the Agricultural Society felt similarly disposed, although several of the speakers thought that the Horticultural Society would gain in strength by a separation if this were forced upon it.

Mr. Pilgrim, on behalf of the Agricultural Society, stated that no desire for independent sessions was entertained by

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that society, and that there seemed to be a mistake somewhere. He then inquired if the Secretary had not lately received a request from Secretary Babbitt for a conference, with a view to arranging a joint session programme. Mr. Trelease answered that he had not received any message of the kind. Mr. Pilgrim then said that in his presence about a week since, Mr. Babbitt had asked a young man who was unknown to him (Pilgrim), to request Mr. Trelease to call at the agricultural rooms to arrange such a programme, at the same time handing him a memorandum of some papers furnished the Horticultural Society for publication in its transactions. Mr. Trelease said that the memorandum, which was a shipping label of the Agricultural Society, bearing the names of the authors of three papers, the stenographer's report of the discussions of which had been kindly sent us by Mr. Babbitt, had been handed him by one of his students, who had delivered no message concerning the arrangement of a programme. Mr. Pilgrim then asked where the office of the Secretary of the Horticultural Society was located, saying that Mr. Babbitt did not know where to find him. The secretary answered that he had at present no office — not even a desk — in the capitol, the old room of the Society being now occupied by the State Board of Supervision, but that he was to be found at his rooms in the State University daily from 9 to 12, with very few exceptions, and that his horticultural work was done in part there and in part at his residence on Langdon street, at either of which places visitors were always welcome at any reasonable hour of the day or night; while mailed communications never failed to reach him, if directed to him simply at Madison. It was jocosely suggested by Mr. Hoxie, that probably no other man in the state who knew his name would have trouble in reaching Prof. Trelease, if he wanted to communicate with him.

On motion of Mr. Hoxie it was decided that no separate programme should be arranged for the February convention, but if joint sessions were not held, such meetings for discussions as were thought desirable, were to be called by the president and secretary, during the time of holding the annual meeting.

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On motion of Mr. Plumb, Mr. Oliver Gibbs, Jr., secretary of the Minnesota State Horticultural Society, and the ladies reading papers at the convention were made honorary annual members of the society.

President Smith stated that he had hoped for the presence of Parker Earle the president of the Mississippi Valley Horticultural Society, and secretary Garfield of the Michigan Horticultural Society, but both had been obliged to remain at home — the latter by a press of work, the former on account of severe cold. He also mentioned the prospective fruit exhibition to be held in New Orleans next year, and suggested that it would be well for us to consider the feasibility of taking part in that exhibition.

On motion of Mr. Plumb the president was requested to send a dispatch of greeting to the Illinois Horticultural Society now in session at Bloomington, together with a statement of the extent and condition of our display of fruit — about 600 plates.

The regular programme was opened by the reading of the following paper on the Waupaca seedlings, by Mr. W. A. Springer, of Fremont:

THE WAUPACA SEEDLINGS.

WM. A. SPRINGER, Fremont.

I have been asked to give an account of Waupaca county's seedling apples. I will say that the Wolf River leads. It is one of the first of Waupaca's seedlings. The old original tree is thirty-two years old, perfectly healthy, has not missed a crop since 1862, and stands in one of the most trying places, where its roots touch the waters of the Wolf river. The young trees are all doing well. I have no trees that gave me so many apples, this year, as my twelve year old Wolf River trees.

The Wrightman orchard of seedlings at Weyauwega, ten of which you have before you, are all healthy trees, and nearly all of them good bearers. The Weyauwega has borne from a fair to a very heavy crop every year for the last fifteen years, and is an excellent keeping apple. The

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Wrightman Blush is also an excellent keeper and good bearer. The Flora is a heavy bearer and good keeper. The Martha is a fair bearer but a slow grower. The Waupaca, although a large, beautiful apple and great grower, is not a great bearer. The other varieties not named, are all excellent trees and good bearers.

The Bennett orchard of seedlings, at Royalton, many of which are very choice, and ten of which we have here, are every tree perfect and all good bearers. Mr. Bennett has one of the best orchards in the county; it stands on a southeasterly slope. His seedlings are mostly numbered so I will say nothing now of any except the Bennett which is a beauty, a great bearer of excellent flavor, and one of the best market apples he has.

Mr. Ma Whinney, of Lind, has about ten varieties of seedlings, some of which are before you. All the trees are healthy and are fair bearers. The Helen is an excellent keeper and great bearer. His orchard is on quite high ground but is quite level.

The Gibson orchard, of Lind, is nearly all seedlings. Mr. Gibson has many very nice apples and good trees. His Sprawler, as friend Plumb called it, is a good keeper, a good apple and a perfect tree.

The Streit orchard, set out thirty-three years ago, and numbering one thousand seedlings, now contains many choice apples and trees.

Mr. Balch, of Weyauwega, has a seedling orchard numbering over one hundred, many of which are splendid trees, great bearers and good keepers, ten of which we have on exhibition. He has probably more apples in his cellar to-day than any other man in the county, though they lack color, and in size are not up to others of which we have spoken. His trees on the whole are a success.

There are many others of which we might speak, some of which we have on exhibition. In our town the Hickman orchard, thirty-five years old, perfectly hardy. Mrs. Hickman tells me they picked five barrels this fall, and then shook off more than another barrel. It bore a fair crop last

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year. It stands in low, level ground. Although it lacks color it is a very good tree to have this year.

I have never seen as many good seedlings from any other quarter and why are they so hardy? Living and thriving when so many of our standards have failed. The old Wolf River is alone where three hundred other trees have died; not a good tree in the orchard. In every instance the seeds of these trees were from Maine, Northern New York and Canada East or seeds that grew here.

I think the place to look for hardier trees is from our northern seedlings, and that to use our northern seeds to grow roots to graft is better than to get the seeds of southern apples or seeds from the south.

I will say that there have been many very nice seedling apples raised here that have died like our tender standard sorts, but all of which we have spoken have perfect trees.

When I first came to this county thirty-four years ago, I brought trees with me. Set the first apple tree, and raised the first apple in the county. Many of these trees are alive and healthy, and bore well this year.

The President, in opening the question for discussion, invited all persons present, whether members of the society or not, to take part in the proceedings of the convention.

Mr. Peffer thought our native seedlings would supply our wants, without forcing us to import Russian varieties.

Mr. J. P. Roe of Oshkosh, mentioned a good late fall seedling of his own, from the Duchess. The fruit is larger than the Duchess. Equal to it for cooking, and superior for dessert fruit.

This seedling blights a very little, and the one tree is hardy. Its grafts have not yet been tested; cions were taken this year for the first time. The tree has the habit of the Duchess.

He also mentioned a good dessert summer apple from seed of Tallman Sweet; and another winter seedling from the same parent. Both have the characteristic ring of the Tall-

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man Sweet. In habit the summer tree resembles the parent, but somewhat less spreading branches.

Mr. Plumb referred to the general unreliability of most seedlings, and stated that many of those seedlings which prove valuable are so only on the peculiar soil on which they have originated, proving worthless in new localities.

President Smith inquired if these Waupaca seedlings — doing well in Waupaca county — would not do well in Brown county.

Mr. Plumb answered that the latter was a very diverse county, in some places drift hills, etc. These would probably do well. Pears thrive in such localities.

Mr. Roe stated that seeds for planting in our climate should be obtained from the most extreme northern limit of growth of good fruit.

Mr. Kellogg reported the Duchess well preserved in Mr. Hirschinger's collection now on exhibition, showing that it was rather more than a fall variety. He thought northern seeds would not give hardier seedlings than those from southern regions.

Mr. Tuttle reported that seedlings of value were very rare on this continent. Excepting the Wealthy, there is no such variety of American origin that is equally hardy with the Duchess. In his estimation, our reliance for the future must be placed on Russian varieties. No variety can be called thoroughly tested for our climate in less than twenty years.

The Society adjourned at 12:30 P. M.

DECEMBER 19th, 2:30 P. M.

The Society was called to order by the President, and Mr. Plumb presented his paper.

After some vigorous discussion the programme was continued by the reading of a paper entitled "Insectivorous Plants," by Mrs. C. A. Willard. After the discussion of Mrs. Willard's paper the following paper was read:

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ROSES IN WISCONSIN.

By SAMUEL BAXTER, Markesan.

That roses can be successfully grown in every part of our beautiful state of Wisconsin, is fully demonstrated by the experience of all who have been earnestly engaged in their cultivation.

Much has been written on the subject of "roses," but most of the articles published apply to their cultivation in the eastern states, mainly in the state of New York.

I wish to discuss the subject from a Wisconsin standpoint, and furnish what information I may be able to impart, as the result of my own individual experience and observation.

Now that the summer and winter protection of the rose bush is no longer an experiment in this state, the wonder is that so few Wisconsin homes are decorated and enlivened by their presence in their surroundings. Said a lady when speaking of pleasant surroundings: "Whenever I pass by a home with beautiful flowers, I always think they are nice people who live there." This sentiment is, doubtless, recognized by us all, though not always so candidly expressed. The multiplicity of names given to the different classes of roses, such as "Tea Roses," "Hybrid Perpetual," "Bengal," "Bourbon," "Noisette," etc., while they may be understood by the professional florist are certainly very confusing to the amateur. For the information of the general public I prefer to class them as "Hardy" and "Tender Roses," and subdivide them into three kinds, viz.: The annual or "June Roses," the occasional bloomers known as "Hybrid Perpetuals" and the "Ever-blooming Roses," the latter kind being all, or nearly so, too tender to survive our Wisconsin winters when left out in the ground. The "June Roses" and "Hybrid Perpetuals" are all hardy and can be easily protected in the winter, the same bushes continuing for a number of years to produce a rich abundance of beauty and fragrance. I will name a few of the "June Roses" that bloom only once

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in each summer. This includes all the "Moss Roses" and the yellow and white "Scotch Roses," also "Madame Plantier" (the best of white roses), "Seven Sisters," "Cinnamon Rose," "Hundred Leaf," etc.

The best of occasional bloomers or "Hybrid Perpetuals" that have been grown under my observation are, "Louis Adier," "Joseph Paxton," "Gen. Washington," "Gen. Jackquiminot," "La France," and "Madam Chas. Wood." These are the most profitable kind of roses to cultivate, as some of them will be likely to produce buds and blossoms continuously from June to October.

Of the tender roses known as Everbloomers there are many beautiful specimens. Perfect roses are often grown on young and very small bushes. They produce some exquisite gems of beauty during the summer, but the plants must be dug up and set in boxes of earth to be housed during the winter. The names of a few of the best kind are, Perle des Jardins, Madam Lambard, Etoile de Lyon, Malmaison, Safrano, the Palyantha or Miniature Roses, Madam Welshe, Marechal Neil, and Duchess de Brabant.

I have been very successful in the cultivation and protection of the above named rose bushes. I have not the least fear of any of the hardy kinds being winter killed. The mode of protection is very simple, and attended with but little trouble. Simply bend the bushes to the ground; hold them there with stakes and cord, or lay some sticks of wood on them, and cover with straw. They should not be covered too early in the fall. From the first to the tenth of November is the best time. One or two hard freezes will not injure them. My experience teaches me that they will endure a zero test in the fall. The bushes should be uncovered and straightened up in the spring from the first to the tenth of April, and tied to a lathe or other support driven into the ground. Rose bushes have been subjected to a test of temperature as low as twenty degrees above zero, after being raised in the spring, without injury.

The mode of protection for the tender or "Everblooming Roses," attended with the least trouble, is to keep them in flower pots or wooden boxes, in the cellar in winter, carry-

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ing them in about the fifteenth of October, bring them out some time in April or the beginning of May, and set the boxes in the ground without removing the plants from them. The rose bush having few or no fibrous roots, almost invariably loses its leaves by transplanting, and sometimes its life.

The summer care and protection of rose bushes of all kinds is attended with but little trouble. If prompt attention is given them at the proper time, they thrive best in rows or beds; it is a good plan to spade up the ground in the spring between the rows, with a spading fork, and hoe the ground a few times during the summer to keep the weeds from growing.

About the first of June a small insect appears on the leaves of the rose bush, so minute at first, that it can hardly be seen without the aid of a magnifying glass, but it grows fast and multiplies rapidly. It honeycombs the leaf, and if appearing in sufficient numbers, and left undisturbed, will soon sap the life of the bush. This insect is what is known as the "Rose Slug," and is the only really formidable summer enemy of the rose bush. It is a small worm, its mature growth being about one-half of an inch in length. This contemptible insect can be very easily destroyed, and as there is only one crop of them it does not require constant watchfulness. Many things are recommended for their destruction. It is said that road dust will destroy them; white helebore will kill them, but a little Paris Green mixed with water in the proportion of a teaspoonful to a ten quart pail of water and applied to the bushes with a whisk broom or sprinkler, will act on the slugs like magic, generally destroying them all with a single application.

All kinds of roses can be propagated by layering. This is probably the easiest and best method for amateurs to adopt, who wish to increase the number of their bushes for themselves, or for the purpose of donating them to friends. The process is easy and simple; choose one of the new shoots of the bush starting out near the ground, dig a small trench in the ground, and bend the shoot down into it, being careful not to separate it from the parent bush. Cut into the shoot on

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the under side, from about three-fourths of an inch below each joint up to the center of the joint, being careful not to cut it entirely off, fasten the shoot firmly into the trench with hooked sticks and cover with earth or sand. This can be done at any time, in the spring, summer or early fall. When well rooted, a separate rose bush can be cut off and dug up from each joint of the shoot. Rose bushes should be moved or transplanted early in the spring. Before a new growth is started in this way they will bloom well the same year.

The ancient poets say that the first *rose* was brought into the world by the hands of the "god of love," and the occasion was a desire to bribe Harpocrates, the god of silence, to an engagement that he would discover none of the secrets of Venus; hence it became a custom to place a *rose* in rooms devoted to mirth and entertainment as a symbol, in the presence of which all restraint might be laid aside. Accordingly the proverb "under the rose" denotes secrecy and inviolable silence. The rose is also, from the same cause. the direct emblem of silence.

Besides the use of the rose at the feast and convivial meetings of the ancients, it was also frequently laid upon the tombs of the dead, either to signify the silence of death or as an offering grateful to the deceased.

I quote from "Poetry of Life," by Miss Sarah Stinckney, published more than thirty years ago, the beautiful language that a lady only can use: "From the majestic sunflower, towering above her sisters of the garden and faithfully turning to welcome the god of day, to the little, humble and well-known weed that is said to close its crimson eye before impending showers, there is scarcely one flower which may not, from its loveliness, its perfume, its natural situation or its classical association, be considered highly *poetical*."

The "lady rose," as poets have designated this queen of beauty, claims the latest consideration in speaking of the poetry of flowers. In the poetic world the first honors have been awarded to the rose, for what reason it is not easy to define, unless from its exquisite combination of perfume. form and color, which has entitled this sovereign of flowers in one

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country to be mated with the nightingale in another, to be chosen with the distinction of red and white as the badge of two honorable and royal houses. The common wild rose is produced without the aid or interference of man. Blooming in the sterile waste, this lovely flower is seen unfolding its fair leaves where there is no beauty to reflect its own, and thus calling back the heart of the weary traveler to thoughts of peace and joy, reminding him that the wilderness of human life, though rugged and barren to the discontented beholder, has also its sweet flowers, not the less welcome for being unlooked for, nor the less lovely for being cherished by a hand unseen.

Friends, the rose still maintains her supremacy in every part of the world. She has long been recognized as queen in all the floral kingdom, and while we concede to all the flower producing plants the full measure of praise for their numberless beauties, peculiarities, and attractions, we should accord to the "rose" the tribute of our highest admiration, and cheerfully welcome her to our homes and surroundings Supply her with that care and protection which is so essential to her supremacy and success in this, our northern clime, and she will bountifully repay us with a brilliant display of her unrivaled glories in the coming joyous summer days.

"From the weather-worn house on the brow of the hill,
We are dwelling afar in our manhood to-day;
But we see the old "roses" and hollyhocks still,
As they looked when we left them to wander away.
Farewell to the friends of our bright boyhood days,
To the beautiful vales, where the 'roses' did bloom,
To the fathers and mothers, now gone from our gaze,
From the weather-worn house to their heavenly home
Where they wait, where they watch, and will welcome us still,
As they waited and watched in the house on the hill."

A paper by Professor Trelease, on "Apple Scab and Leaf Blight, or Mildew," was then read.

On this question Mr. Roe stated that trees of Fameuse on limestone gravel knolls were perfect, while others on poorly drained clay loam were ruined by scab; but fire-blight was more evident on the former soil.

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Mr. Tuttle stated that the Fameuse was grown here twenty years without the scab, while other older varieties scabbed badly at the same time. Young trees of Fameuse scab as badly as old ones; the scab appears even when the apple is as small as a pea. Mr. Tuttle attributes the disease to cool, damp weather about and soon after the time of flowering.

Mr. Smith stated that Fameuse trees near Green Bay have been planted forty years, or about that, and never scab.

Mr. Tuttle mentioned a tree of the same variety on the north side of a clay hill, which was perfectly free from scab.

The Society adjourned at 5 P. M.

DECEMBER 19, 7:30 P. M.

The Society was called to order by the President.

The Secretary read a telegram of greeting from the President of the Illinois State Horticultural Society, which sent its congratulations and good wishes.

Mr. John C. Nevin then delivered an address of welcome to the State Horticultural Society, on behalf of the citizens of Green Bay.

Mr. D. Huntley, of Appleton, spoke fittingly in response to the address of Mr. Nevin. After which the Society listened to the following paper:

THE FLOWER MISSION.

By MRS. H. M. LEWIS.

A few months ago an item appeared in the Western Farmer in regard to the Flower Mission of Chicago.

A gentleman remarked after reading it: "How sad it is that not one person in fifty knows anything about this noble humane association, that blesses the giver as well as the receiver."

To such as these we would say that the Flower Mission had its origin in Boston little more than twelve years ago. The object of the society is to send gifts of cut flowers, pot plants, fruits, etc., to the asylums, hospitals and other places where they will be most beneficial. It may be some sultry

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day to a work-house, jail, factory, as well as the asylums and hospitals. Practical workers in the society that interest and inform themselves on the subject, know just when and where they will do the most good.

We, who have kind friends, comfortable homes, the necessaries as well as many of the luxuries of life, know but little of the needs, the heart aches, and the discouragements of the suffering poor, who are making desperate efforts to keep soul and body together during the heated term of summer. Many of these unfortunate people are herded together in close hot rooms, in alleys or attics, where fresh, pure air, is almost unknown.

The benevolent, joyous young lady teacher in the suburbs of Boston little knew what magical seeds she was sowing and what beautiful flowers would bloom from her simple acts of kindness — for by giving flowers to the ragged, dirty children at the street corners, behind the asylum gates, and in the basement tenement houses, the great flower mission had its birth.

Each week the enthusiastic teacher's coming was hailed with joy, for her face was like the sunshine. Dirty little hands were ever ready to receive the gift of flowers, for children, notwithstanding they are kept unclean and unlearned, love every thing in nature.

After a time the growing demand for flowers became so great that the little teacher could not meet it alone; and after consulting with friends she resolved to ask for public contributions.

On the following Sunday a notice was read in several churches inviting people to bring contributions of flowers and fruit to Hollis street church as it would be open to receive them on Monday's from eight to twelve. Although the church was Unitarian it was only selected because of its central location, for the society has no sectarian bias.

On Monday morning the ladies were ready to receive the gifts, little dreaming of the great work they were inaugurating. The record says:

"The first to come were two bright eyed girls, who, glowing with the air of their lovely country homes, and excite-

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ment from the thought of the pleasure they had the means of giving, appeared with baskets filled with honstonias, cowslips, violets, and anomenes, nicely tied up in pretty bunches; then two more with baskets filled with English violets; and again another with field flowers. So far all were personal friends; the next contribution, however, was from a stranger — lovely hot house flowers, and ripe, red strawberries. Again a silver wedding gift of twelve beautiful bouquets, seeming to the donors the pleasantest memorial they could have of their own happiness. Again a Lady Bountiful sends her carriage laden with cut flowers, pot plants, and bunches of flowering shrubs, placing her carriage also at the service of the ladies — a welcome gift indeed, for it is no light task to carry the large flat flower-laden baskets to their destination."

Surely an auspicious beginning; contributions from thirteen sources; distributions to one hundred and fifty persons.

For several years the mission had no president, or other officer, everyone worked as inclination prompted, but for the past five years, for the sake of doing the best work in the least time, a full corps of officers are elected yearly.

Nearly 8,000 boquets were distributed the first year, besides loose flowers and pot plants. One man, called the "Pansy man," brought to the mission nearly 2,000 pansies, 1,800 boquets and 1,200 pond lilies. He was as faithful the fifth year as the first. Indeed it is said that people who have given themselves once to the work never turn back. Were we to gather up the many incidents of the Flower Mission — publish the grateful letters, etc., we could fill volumes, for many stories are very touching and interesting. Every day brings forth fresh experiences.

We cannot say that everybody is benefited by flowers (O, that we could), but we believe that the majority of people, particularly women, are so blessed and benefited.

The day for receiving and distributing flowers in Chicago is Wednesday. The Flower Mission rooms are now at the Atheneum, 50 Dearborn street.

In Madison the flowers are gathered Tuesday afternoons, kept a while in water, in a cellar or dark room; then loosely

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packed in boxes or baskets, between wet newspapers or cotton batting. They go by the night express, arriving in Chicago by daylight the next morning, as beautiful as if gathered fresh from the woods and gardens. The railroads transport all flowers for the Flower Mission free of charge, and the expressmen seem to take special delight in the work.

The annual fee for the Society is fifty cents. These fees from gentlemen constitute the carriage fund. Many invalids during the year have the benefit of a free carriage ride.

The Country Home department is a branch of the Flower Mission, controlled by a separate committee. It has for its object providing comfortable homes for a limited time to poor invalids in the country. This department is rapidly growing in popularity, as much good has resulted from it, and it is destined to become one of the most worthy charities of our country.

At Christmas time the ladies aim to have a Christmas wreath of evergreen with a "Merry Christmas Card" attached, for every bed in the hospitals. This part of the work could be done by people living in the country, and I know of no pleasanter Christmas work. It is not medicine at all times that the sick need most. It is something that takes the mind from brooding and disquieting thoughts. A kind, hopeful, cheerful word, a sympathizing grasp of the hand, a little token of remembrance, will some times cure when medicine fails. The mind is often more diseased than the body.

Through the medium of flowers, shy, sensitive natures are many times reached when they can be by no other means. The case of a woman supposed to be in great poverty was reported to the ladies of the Flower Mission, but no one dared proffer her assistance, for she was proud and high-spirited and would bitterly resent any overtures of charity. So the ladies resorted to a bit of strategy. A handful of roses and other flowers wer first carried to her; at the next visit a pitcher full of wild flowers and ferns just from the woods; these brought enthusiastic words of praise from her lips, and glad, happy tears from her eyes; next came a box of mignonette, a small fuchsia and other green growing

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plants for her to look at and care for. These were the stepping stones that took her out of her own morbid self for a little. After them came jelly, fresh eggs, nourishing food and other comforts for herself and child.

One morning one of the new made friends called upon her and informed her that on the following morning she was to go out for a ride. "Oh, but my dear" exclaimed the invalid, "I can not go. Don't you know that I have not been out of this bed for more than a year." "Never mind" said Mrs. G. "I have permission from the doctor and John has strong arms you know, and he will carry you; and the carriage will be half full of pillows. We will try the experiment and if it fails we will not attempt it again." Sweet new hope came to her that day like an angel of light, and that eventful ride proved to be the turning point in her life. She began to feel now for the first time in years that life still held some joy for her and perhaps after all it was worth living.

Let us follow the flower carriers on their rounds during a July morning. The air is hot and sultry out of doors. In the great sale-room it is like a heated furnace. All the clerks are in full dress, every one looks and feels unhappy and irritable; they think of the cool waters and green pastures, and long to be among them. We will follow on into the great work-room above where overcoats and other garments are being manufactured for the winter's trade; men and women are at work cutting, sewing, padding, and steaming with hot irons the heavy goods. To such as these give flowers.

The modest Sweet Brier spoke at last,
"My humble lot I long to cast
Among the poor, who toil and sin,
Amid the city's ceaseless din.

I will recall their early days,
Of simple joys and peaceful ways;
The country walks wherein they strayed,
Through sunny field, or woodland shade.

And through these memories of youth,
With all its innocence and truth,
A tender ray of hope divine,
To cheer their present gloom should shine."

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It was my pleasure to get a glimpse of what fresh flowers could do for the sufferers in hospitals during the war. Whenever they were brought into the sick rooms, men and boys would reach out and beg for them, saying, "please don't pass me by." Pinks, roses, lilacs, pansies and sweet geraniums were favorites; but the old double pink most of all. I have seen a man in bed with amputated limbs shed tears over them, and almost pray to them, for he seemed to see his mother's eyes in her good old garden pinks.

I have seen a man too sick to hold the tin cup of roses in his hands, ask to have it placed near his pillow, that he might enjoy all the fragrance and beauty. Another man asked that his hands might be filled with sweet flowers, mignonette and roses, when a severe operation was being performed. If flowers afford such comfort to men, what must the comfort be to women, sick in prisons and hospitals. Physicians tell us when difficult operations are to be performed at the hospitals, they take special pains to have them done on Wednesday's after the distribution of flowers, for at that time the whole atmosphere of the place seems changed.

I am not prepared to give an opinion in regard to jail and prison work. I will leave others to investigate the subject; no doubt many times good work can be done there. Good, sound judgment must be used, however, in this matter. It is sometimes a mistake to make these places too attractive; for indolent people who do not like to take care of themselves will take advantage of it. Prisoners should have, except in extreme cases, kind treatment, but at all times clean, well ventilated, healthy rooms.

In cases of life long imprisonment, no doubts on the flower question are entertained; brighten the life of the prisoner with pleasant things, give him books pictures, growing vines and plants by all means, for they will give him sweet growing thoughts that will lead him upward to a better life.

A woman prisoner (a desperate character), in one of our western cities is breathing out her life to-day behind prison bars that are hidden with a drapery of green from her growing vines. The effect that the cultivation of flowers has

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had upon her life is said to be almost incredible, in fact miraculous.

Let us enlist with the flower workers of the cities if we can, but if we cannot, let us establish flower missions of our own in our homes for the sick and unhappy about us; we can easily do so by getting the younger members of the family interested. We will cut our geraniums into slips in the early spring that the geranium beds may be enlarged; we will make an additional pansy bed, plant new shrubs, vines and flowers, with the old time sort that are ever ready to give up their flowers. Then is flower growing glorious employment. If doubts arise on the subject, I pray you try the experiment for one year.

Right here, let me say to our people, that we have several insane asylums in our state filled with hundreds of insane patients that are greatly in need of our flowers. Many of these unfortunates have lived among and cared for flowers during the best part of their lives. What rest and balm it would be to their weary, restless, longing souls to receive every Wednesday a basket or boquet of sweet, fresh flowers just from the woods and gardens. We hope the day is not far distant when fresh flowers will ever be seen upon the tables of the insane patients.

"I gave unto a brown and tired hand
A stem of roses sweet and creamy white;
I knew the bells rung merry tunes that night.

Lo, it was Christmas time throughout the land,
And all the skies were hung with lanterns bright,
The brown hand held my roses gracelessly.

They seemed more white within their dusky vase.
A scarlet wave suffused the woman's face;
"My hands so seldom hold a flower," said she,

"I think the lovely things feel out of place."
Oh, tired hands that are unused to flowers!
Oh, feet that tread on nettles all the way!

God grant His peace may fold you round to-day,
And cling in fragrance when the Christmas hours,
With all their mirthfulness have passed away.

MADISON, Wisconsin.

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Mr. Roe spoke warmly of the good influence of flowers in the walks of life and under all circumstances, touching feelingly upon his home experience.

Messrs. Hoxie and Plumb followed with appropriate remarks, after which Secretary Oliver Gibbs, Jr., of the Minnesota State Society, introduced and read a paper on "Some of the Gardens in Literature" which showed much study and appreciation of the passages quoted. The paper was in every respect a gem.

President Smith then read a paper on Horticultural Progress.

Mr. Roe spoke in praise of the Worden grape which he thought much of as surpassing the Concord in sweetness and quality, while equally so in size and hardiness. Messrs. Kellogg, Springer and Daniels also spoke very favorably of the Worden.

Mr. Plumb thanked Mr. Smith for his commendation of the *Western Farmer*, and mentioned that he saw at least twelve correspondents of the *Farmer* in the audience. He gave a short account of the origin and prospects of the *Farmer*.

Mr. Gibbs spoke of the soundness of the president's statement as to the market test fixing the value of varieties, but called attention to the short time since our standard varieties were transferred from the experimental to the recommended lists. Few varieties get the general market test. He stated that the Minnesota society proposes offering premiums of $1,000 for the production of a new seedling in any part of the world that shall prove superior to the Wealthy for the Northwest.

The society adjourned at 9 P. M.

DECEMBER 20, 10 A. M.

The society was called to order by the president.

Secretary Gibbs of the Minnesota State Society invited the members of this society to send delegates and exhibit fruit at the approaching convention of their society.

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Mr. Tuttle then read a paper upon Russian Apples.*

This was followed by N. N. Palmer's paper on "The Orchard Lessons of the Past Year."

George J. Kellogg then followed with a paper on "The Horticultural Outlook."

In the discussion which followed the papers, many members spoke on apples in the Northwest, giving their experience in the past and their prophecies for the future.

After which the following paper was listened to with much interest:

HORTICULTURAL NOTES.

By OLIVER GIBBS, JR., of Lake City, Minnesota, Secretary of the Minnesota State Horticultural Society.

RUSSIAN APPLES.

The only place where I have found any of the Russian apple trees, of recent importations, growing in orchard in Minnesota as root grafts (except one or two of the Anis) is upon the farm of Andrew Peterson, near Waconia, in Carver county, a little below the latitude of St. Paul. Here is a small orchard, grafted in 1876 from the cions of the Agricultural Department Importation of 1870, kept perfectly clean, the season through, well cultivated, and forced by severe pruning into high heading and upright growths which gives a test of a few varieties that is fairer than top-working on crabs and is worthy of study. Here are the Lieby, No. 240; Charlamoff, No. 262; Hibernal, No. 378; Little Seedling, No. 410, and Astrakoff Glass, No. 472 — all as hardy in appearance as the black oaks in adjacent woods. The soil is a light colored, clay loam, the exposure southerly, with timber on the north some thirty rods away. All have the smooth bark of the Duchess, all the thick and wooly leaf common to the Russian trees, but all except the Little Seedling are irregular and scrawny though vigorous in growth. Charlamoff is a large, oblong, striped summer apple of excellent quality. Leiby, Hibernal and Astrakoff Glass are also large, but flat-

*Printed in Transactions of the State Agricultural Society.

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tish, conical, red-streaked or greenish yellow tint; season early winter, but may keep late with extra care; and quality very good for cooking, being mildly sub-acid and fair for dessert. Little Seedling is a long keeper, quality unknown. Beside and among these trees are other grades of Russians showing tenderness and blighting habits. Of these I have postponed taking notes, as Mr. Peterson will give our society a full history of his tests of Russians, this winter.

As tap grafts I have seen the Anis in orchard at the nursery of A. St. Sias, in Rochester, and one or two as root-grafts in farmers' orchards in the vicinity. Have had no opportunity to test the fruit, but the trees in orchard and nursery are perfectly winter hardy and I believe they are reported as blight proof. At Anderwood and Emory's at Lake City, I have also seen as tap grafts, with every appearance of hardiness and freedom from blight and also in full bearing, the Cross apple, No. 413, and the Yellow Transparent. The Cross is medium rigid, glossy red, excellent quality in its season, which appears to be December, but then fails quickly by an internal dissolution before giving any outward sign, but in this case it may be owing to some peculiarity of the soil or season. The Yellow Transparent is the best summer apple yet fruited in Minnesota. It is large, even in size, oblong, yellow, an enormous bearer, hardy, and its quality very good for dessert. It comes in ahead of the Duchess and as stated by A. G. Tuttle, of Baraboo, who has fruited it for years, those who have it, have no further use for the Tetofski.

THE OSTHEIM CHERRY, ETC.

In the garden of Andrew Krause, near Waconia, stands a cherry tree six, to eight inches in diameter and twenty-five to thirty feet high, having a smooth, perfectly hardy look, and bearing in fvaorable seasons, in abundance, large sweet cherries, so large that Mr. Krause hunted for some time among a lot of common sized Siberian crab apples, lying frozen on the ground in November to find one large enough to state the size of the cherry in comparison. The tree was obtained from Charles Ludluff, of Carver. On applying to

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Mr. Ludluff, he informed me that it was the Ostheim Weischel cherry. The original stock was sent him in the shape of root sprouts by a pomological friend in Germany, over twelve years ago, and he has since propagated the trees in the same way and distributed them to some extent among his neighbors and friends in Carver county. According to Mr. Ludluff, these trees have shown themselves to be perfectly adapted to the Minnesota climate, being entirely hardy, great bearers, and the fruit in favorable seasons very large and good. The fruit is oblate in shape, color dark red, changing to almost black when ripe; flavor sprightly, sweet and refreshing, nearly freestone, stem about two inches long. The tree I saw at Mr. Krause's has a forest tree expression, like our American black cherry; but Mr. Ludluff says it generally does best when grown in dwarf form, and if grafted it must always be worked on sweet cherry stocks. That such a variety has been growing and doing well for twenty years as far north as Minnesota, at almost 45° is most encouraging and suggests the query if we can raise the German Ostheim in the north at all, what may we not expect in cherry growing when Prof. Budd and Charles Gibb shall have disseminated their still hardier Russian Vladimirs, and it suggests another thought to me, which may or may not be important in Wisconsin, that all the wisdom in horticulture and all the important facts on the subject cannot be found inside of our societies; that some of these quiet, shy farmers with their foreign education in their schools of pomology and forestry are getting ahead of us; that it is our duty to seek them out, invite them and encourage them to join our societies, and that they can be of great help to us in our work. I have lately found a few such who wear as large horticultural hats as any of us. One of them who had never seen an American horticultural report till I gave him one of ours this fall wrote me as follows a few weeks after in his imperfect English:

"Now the days been short, the night very long, and a man have now a good chance to reading in the evening. So I did. I look through the Minnesota Horticultural Report,

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1883, and I was to be interested that when I look what time it was, it was two o'clock in the morning, and with all the brain food I had taken I went to bed and slept nicely." If Brother Trelease can make his Wisconsin Report as interesting as that we will exchange for any number of copies.

IMMEDIATE INFLUENCE OF POLLEN.

At the recent meeting of the American Pomological Society there was an interesting discussion upon facts presented by J. T. Lovett, of Little Silver, New Jersey, and others, indicating that in planting staminate strawberries to fertilize the pistillates, the latter are not only made fruitful, as all well posted growers know, but the color, texture, size and perhaps even the flavor will sometimes vary according to the character of the staminate variety used in the process. Many facts were given to support this theory, which if true, gives us more power in the improvement of our small fruits than has heretofore been thought possible. Upon this basis we may possibly correct faults even in the staminates themselves; the Sharpless, for instance, by having some neighbor more prepotent than itself in the influence of its pollen, may be given an outside finish that will resist the rot in hot and rainy weather that so often spoils the largest specimens of the berries before the picker can "get there." On my own grounds, in a small experimental bed last summer, I found a row of Crescents having throughout the season, the color and firmness of the Wilson. I was puzzled with it then; but now under this new theory I can account for it by referring the change to the benefit from the row of Wilsons that grew next to it; and my Glerdales growing alongside of Wilsons were very bright in color, although said by others to be often of a dull, dirty hue. And why may not some of the many variations of apples upon the same tree or neighboring trees of some sorts be due to this immediate influence of prepotent pollen either at the time or through reversion or heredity. It is usually supposed that the change in the character of fruit from the effect of foreign pollen becomes apparent only in the next generation through the seeds, yet any one who will read Darwins "Variation of

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Plants and Animals under Domestication" will see that cases of the contrary kind are not very rare—the most notable one being that of the St. Vallery apples, whose stamens being themselves abortive, the children in the neighborhood carry to the trees pollen from other varieties of apples, and attaching each their own name to the spur or blossom fertilized by them, claim and receive from the tree each a different fruit at the ripening season. This study of blossoms and seeds lies at the very base of all systematic improvements in fruits as well as flowers, and we in Minnesota are under great obligations to one of the members of the Wisconsin Society for aiding us with his studies in this interesting field of knowledge. May the pleasant reunions in the annual "Peffer resurrection" * continue as long as our stalwart friend can enjoy them.

THE LAW OF CROSS-BREEDING.

In reference to fruits, trees and plants, all the facts I can find, new or old, by reading, by observation or injuiry, point one way in this that the mother tree or plant is most likely to give constitution, habits of growth and external finish to the new seedlings, and the male parent the quality and season of the fruit. Mr. Peffer has always, I think, found this to be true in his experiments; and Dr. E. Lewis Sturlevant at the New York experiment station at Geneva, who is very cautious in statement, told me last fall that so far the facts developed in his work indicate the same, although he did not claim to have found enough to prove it to be a law. In illustration he showed me a lot of seedlings from the Turkish Cap tomato, a rot proof variety.

The tomatoes on all of these seedlings were like those of the female parent plant, in respect to being free from rot; although their size, shape, color, and quality was as various as might be expected from the mixtures which the winds and insects had made in the un-isolated pollen. It may reasonably be expected that in this case when both pistils and pollen shall be perfectly isolated, and the pollen being taken

* The anniversary of G. P. Peffer's resurrection from beneath thirty feet of gravel in a caving well.

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from a choice hardy variety, among some of the seedlings will be found a good tomato on a stock that will make it rot-proof, whose character may be fixed as a distinct variety. Gardeners as well as fruit growers and farmers have much to hope for in the work of the Agricultural Experiment Stations. We need many more of them in our efforts to get better and long keeping apples. By seedling production we shall save much time and labor, heretofore wasted in haphazard work, where not one seedling tree in ten thousand is ever an improvement, if we find out and apply to the laws of variation whereby improved conditions around the parent plants import a tendency to improvement in the progeny, and the law of cross-breeding, whereby these tendencies are developed, united and fixed. We shall find analogous facts for guides in these things in close observations of all plant and animal life. Races improve in reproduction solely through improved conditions in the parent life, and through proper unions of strength and fine quality. We cannot attend too carefully to these conditions in the culture of all living things over which we have control, as there is abundant evidence of the certainty that every mood of the parent life is liable to transmission, for better or for worse.

Mr. Saunders at Washington told me of two interesting experiments that he had made some years ago. Wishing to fix the strong, upright stem and other vigor of the Fillmore strawberry upon some new plant having a better berry, he fertilized the Fillmore pistils with pollen from one of the black varieties — he had forgotten the name of it, probably the Black Defiance — and planted the seed. Among the new seedlings was a plant having the very character he sought to produce, vigorous foliage and the stout stem holding its fruit clear of the ground — and the berry of excellent quality. The name given to the new plant was Patuxet. It was lost in the mud of the overflow from the Potomac into the department grounds caused by the filling up of the old canal, but Mr. Saunders thought some of the plants sent to A. M. Purdy of Palmyra, New York, may have been preserved.

The other experiment was with raspberries. Doolittle black cap blossoms were fertilized with pollen from the Philadelphia

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red, and among the seedlings was this remarkable variation: a raspberry bush of the black cap form, bearing red berries like the male parent. This was also buried in the mud, and though Mr. Saunders searched carefully with tears and in long rubber boots to dig it up, it could not be found.

The practical lesson should be often stated and reiterated: Choose for seed bearing the hardiest and thriftiest forms of best habits of growth, and as far as possible fertilize by hand with carefully isolated pollen from the sorts whose quality and the season of ripening suit us best; never forgetting, however, that there must be as careful isolation of the pollen as of the pistils; and not expecting too certain results in every case, for with the utmost accuracy and care in our work, lusty nature in her stealth will sometimes get the better of our inclosures, and astonish us with new puzzles in the next generation; and more than this, perhaps is the fact that we have always to encounter the forces of heredity and reversion as to previous mixtures of which we may know nothing whatever.

DECEMBER 20, 1883, 2:30 P. M.

The Society was called to order by the President. To relieve the secretary somewhat, Mr. J. C. Plumb was appointed recording secretary *pro tem.*

On motion the President was authorized to appoint delegates to the approaching annual meetings of the Minnesota, Iowa, and Northern Illinois Societies; and named the following delegates: Minnesota, J. C. Plumb; Iowa, J. M. Smith; Northern Illinois, Geo. J. Kellogg.

B. S. Hoxie then read an interesting essay on "Waste Places."

After a very instructive and entertaining discussion of Mr. Hoxie's paper, the programme was continued by "The Northern and Southern Home," a paper read by Mrs. I. E. Tilson of West Salem, followed by one on

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THE WORK OF TO-DAY.

BY MRS. VIE H. CAMPBELL, of Evansville, Wis.

"Go work in my vineyard."
"The harvest truly is great but the laborers are few."

"Work, for the night is coming;
Work through the morning hours;
Work, while the dew is sparkling,
Work, 'mid springing flowers;
Work, when the day grows brighter,
Work, in the glowing sun;
Work, for the night is coming,
When man's work is done."

"Work, for the night is coming;
Work through the sunny noon;
Fill brightest hours with labor;
Rest comes sure and soon.
Give every flying minute
Something to keep in store,
Work, for the night is coming,
When man works no more."

The work of to-day is so great that, as I contemplate its vast proportions, as it rises before me, I stand aghast; but only for a moment do I falter as I perceive, that by one thing at a time with united and persistent effort, as it is yet early dawn, much may be accomplished though the day may be short.

The preparatory step, is to summon our laborers; and to all who are willing to unite with us for good and to do good, do we appeal. Attending the meeting of this society last winter, for the first time, I saw, with surprise, the dearth of ladies, and I thought, surely, the ladies of Wisconsin can not know how much good they may do, and how much receive by being present at these interesting sessions. Let no one allow herself to become dilatory from thinking "there is so little I can do;" it is the little we *can* do, which is always so essential. Little things make the grand whole of life. There are seldom more than one, or two at best, great events in the

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lives of our most eminent men, but they are replete with the perfect fullness of the little things which the beautiful harmony of those lives we emulate.

One little kind act, however unthinkingly performed, will, dropped on the ocean of humanity like the pebble in the sea, constantly widen its circle, on and on, until it has reached the out-bound shore. What a mighty influence is wielded by a tiny flower! If you doubt it, cultivate a few; cultivate them to give away. Flowers thrive best for those who love them so well as to bestow them on those who have not; spend an hour or two each week in that employment, a short time and will hardly be missed. You can take it when wearied from the performance of other duties, and the change will be refreshing and restful, for "rest is not quitting the busy career," and see if the little while thus spent will not, in good influences felt, repay you a hundred fold—"The bread cast upon the waters." Make the experiment, and I know you will derive more real pleasure thereby than you would from ten times the amount of time invested in the production of the most elaborate and fantastic "crazy quilt" woman's ingenuity ever invented.

Illustrations multiply; I will give one. This morning as I am at work among my flowers, a little boy comes along on his way to school. Rather untidy and unkempt, he pauses a moment to look at their beauty. I ask him if he would like a bouquet, and I know by his eager look ere he answers "yes'm." I give him one and tell him to call to-night and he can have one for his mother. He looks rather askance at his dirty fingers and I guess rightly that when he calls to-night he will have made an attempt at cleanliness; and well I know those flowers will shed their influence all day in the school-room, softening all, giving new inspirations. I well remember, while engaged in teaching, that I never could find the heart to so harshly chide the little mischief who had that morning brought me a fresh bouquet.

Did I regret that my Feverfew, too closely cut in July to fill the basket of white flowers as a floral tribute to one who had passed beyond painful suffering, gave me no more of bloom until September. No, because well

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I know that the fragrance and beauty of those flowers will be fresh in the memory of those children, long after the features of that mother have faded from their recollection; and the scene will often, as years go on, present itself, acting as a check to many a harsh word and selfish act.

Who can set the limit of the influence of little things? Although we spin not, neither do we weave, much more is expected of us to-day than there was of our grandmothers. The spirit of exactness, that pervaded the daily lives of those worthy dames, has not diminished with the tide of years. Duties, grave and stern, meet us at the very threshold of the lives of those for whom we have to care. Upon our failures and successes to-day depend the destinies of the men and women of to-morrow. Our physical inheritance is largely against us, for, inasmuch as the wealth and luxuries of a nation increase, so the physical development decreases, for labor makes us strong, perfectly develops the muscular system. A life of ease, so often thought to be conducive to our happiness, is detrimental to progress.

Some evils come slowly and insidiously upon us, that at the outset *might* have been checked, but now have assumed such proportions that they almost baffle our attempts to subdue them. For instance, the cultivation of tobacco, that at the first was limited to the experimental half-acre, has now increased to such an extent that the very best of the southern portion of our state is devoted to its production. I often wonder how a thinking man *can* expend so much labor in that which is a curse to humanity, when the same labor rightly invested might bring unnumbered blessings. I think I could not enjoy the luxuries obtained by the sale of this weed without some misgivings.

Few, at the outset, realized the direct results of this great evil. That our boys, from employment in its cultivation and preparation for market, have become habituated to its use, hundreds to-day can tetisfy. I call it an evil because I know of no good use of tobacco. I will not make the charge sometimes made, that it is a common stepping stone to dram drinking, but all our inebriate asylums consider it useless to

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try to reform a patient so long as he is allowed to continue the use of tobacco.

It is an active, narcotic poison, that while its use does not, perhaps, cultivate a desire for stronger stimulants, befogs all the senses, and blunts the finer susceptibilities. The man who, at first, occasionally smokes, will ask you if it will be offensive if he lights a cigar; but bye and bye he will have become so oblivious to all courtesy that he will light his old pipe and puff away in your face as unconcernedly as possible, never heeding, little caring, that he is depriving you of one of God's best gifts, pure air.

It used to be rare, indeed, to see a young gentleman smoking in the presence of a young lady, but now the vice has been so long endured that it is by no means uncommon to see him riding with two young ladies complacently puffing away. Young ladies, is it not patent what part of the day's labor ye have to perform?

Last summer, as the excursion trains rolled out from the several towns, laden with those who attended the S. S. Assembly on children's day, I was surprised, as well as pained, to know that little boys with their buckets of fruit and nuts to sell, to add to the S. S. treasury, carried also boxes of cigars to sell, and likewise, at some of our fairs, this fall they were sold by young ladies at the church booths. "Now ye defile my sanctuary!" And I thought, what good end could be attained by so foul a means?

We build grand and stately edifices for the use of our legislators, furnish them with luxurious conveniences, import beautiful carpets, so pleasing to the eye, and so soft that scarce a foot-fall is heard, and then decorate each geometrical figure with a huge white spittoon. Verily, ought we not to-day to be engaged in ridding ourselves of our hoggishness rather than building such palaces.

Another evil assuming serious magnitude and threatening us with dire consequences, is of a mental character, and I hope you will not deem me *too* severe when I say that parents are guilty of gross neglect, if not positive indiscretion in their children's taste for reading. This is an Age of Books; our children come into a world full of printed matter,

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which sooner or later they are bound to read. The first books we buy for them begin to form their taste in that direction, and wisely selected, no fear of their tastes becoming deformed. If we do not attract our children towards books, by giving them those that are interesting, if we do not cultivate their tastes for the good and pure in literature, they will, ere long, acquire a taste for the flashy stuff with which the country is flooded, called in England "penny dreadfuls." We must watch carefully over our children's reading; it is a subject demanding our diligent investigation. We must give them strong, bright, interesting reading, with the blood and sinew of real life in it—heartsome, pleasant reading that will waken them to a closer observation of the best things around them.

A former mayor of one of our large cities once said that he could rid the jails of a large per cent. of the juvenile criminals in the next year if he could put certain books out of print. A suggestive fact; it is the part of the fathers and mothers to clear the jails in future. No mayor can help them. A false impression almost invariably given to young people is, that seeing the world necessarily means seeing the badness of the world. Once let children understand that to see the world in a fair way, they must see also its good side, its nobleness and true progress, and you at once put their souls in the way of a wholesome growth.

It is right and natural for a child to want to see the world. It is right and natural for him to wish to read books that according to his light show him what the world is. The wrong and unnaturalness are in the careless way in which parents ignore this want or fail to meet it in a proper manner. Vile writers and worse publishers are fattening on this tendency of children and carelessness of parents. Good writers and honest publishers are offering the means of remedying the great evil and are showing the youth of the country how they may see the world and yet remain pure and true. Which class shall win the race?

When the evil has advanced to that stage that children, of ten or twelve years of age, carefully hoard their pennies to invest them in the purchase of miserable "dime novels"

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and "nickel libraries," then, indeed, have we great cause for alarm. What can we expect of minds fed on such trash? It is a lamented fact, but I know of newsdealers, who are bright and shining lights in the church societies of which they are members, who are constantly supplying their counters with this abominable stuff.

I went into the store of one of them in a neighboring city, not long since, well known for his uprightness and conscientiousness. Thinking perhaps, he did not deal in the like, I asked for cards: "Playing cards," said he in a rebuking tone, "I never kept such a thing in my store!" As I really wished to purchase stationery I did not feel the rebuke, but just before I left the store he asked me if I "did not want something in the book line?" He "had cheap editions of all the standard novels." And, as I looked them over, I saw many that were considerably below the standard.

I could not help thinking how much I would rather my children would play cards every evening in the week than that their minds should become warped as they would by reading even *one* evening such books, and I wondered how the good man's conscience could be so elastic on the one hand and so rigid on the other.

Ere leaving the subject of reading matter, perhaps it would not be inopportune for me to briefly suggest to you the importance of heartily contributing our support and sustaining influence to our only medium of communication, by the printed page in our state, and hardly need tell you that I refer to the *Western Farmer,* a paper that should find a welcome in every rural home — a journal whose purity of thought is unquestionable.

Its proprietors are ever willing and desirous of allowing us to use its columns for the furtherance of our industry. As a question of economy, no farmer can afford to do without the valuable and practical suggestions it contains. "A word to the wise is sufficient."

As a class, we agriculturists, are becoming quite a beacon light; at least, people note all the *ill* we do, and are oft repeating the question: "Why do we license the sale of intoxicating liquors and gambling institutions upon our fair

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grounds?" Our purpose is to yearly bring for exhibition, the very best of our products. Shall we allow that purpose to become subverted, and instead, an exhibition of the very worst than man can do. Shall we, who have all these years been carefully teaching our sons the withering curse of the wine cup and the gaming table, send them here where we sanction such things unblushingly?

You would not give a thief license to come in and pick the pockets of one-half the people? You would not station gatekeepers armed with sabres, to give every hundredth man a thrust that would disfigure him for life. Oh no, but you do allow men to come in, who have no ostensible object save to fleece the pockets of those who are young in years as well as in experience, by the side of whom a common pickpocket would be considered honorable, because every one knowing his calling would be guarded thereby.

On motion of Mr. Trelease, the rules of exhibition of the American Pomological Society were referred to the Committee on Nomenclature, for their consideration, with a view to bringing the rules of this Society into conformity with them, so far as practicable; their report to be made at the approaching annual meeting.

PREMIUM LIST FOR THE WINTER EXHIBITION OF THE WISCONSIN STATE HORTICULTURAL SOCIETY, TO BE HELD AT GREEN BAY, WISCONSIN, DECEMBER, 19TH AND 20TH, 1883.

The judges reported the following awards on the fruits and flowers exhibited.

Best ten varieties of winter apples adapted to Wisconsin, Chas. Hirschinger Baraboo	$7 50
Second best, Geo. Jeffrey, Milwaukee	5 00
Third best, Geo. P. Peffer, Pewaukee	3 00
Fourth best, Wm. F. Dougherty, Preble	1 00
Best five varieties of winter apples adapted to Wisconsin, Wm. Springer, Fremont	3 00
Second best, Geo. Jeffrey, Milwaukee	2 00
Third best, Chas. Hirschinger, Baraboo	1 00
Fourth best, Geo. P. Peffer, Pewaukee	50
Best five varieties of winter apples for market purposes, Chas. Hirschinger, Baraboo	3 00
Second best, Geo. Jeffrey, Milwaukee	2 00
Third best, W. F. Dougherty, Preble	1 00

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Best five varieties of fall apples, with written statement of manner of keeping, Wm. Springer, Fremont	$3 00
Additional first premium, John Mahon, Preble	3 00
Second best, Chas. Hirschinger, Baraboo	2 00
Third best, Geo. Jeffrey, Milwaukee	1 00
Best plate Plumb's Cider, Chas. Hirschinger, Baraboo	2 00
Best plate Haas, Wm. Springer, Fremont	2 00
Second best, Chas. Hirschinger, Baraboo	1 00
Best plate Fameuse, Miss M. E. Newton, Green Bay	2 00
Second best, Chas. Hirschinger, Baraboo	1 00
Best plate Walbridge, Geo. Jeffrey, Milwaukee	2 00
Best plate Westfield Seek-no-Further, Miss M. E. Newton, Green Bay.	2 00
Second best, Chas. Hirschinger, Baraboo	1 00
Best plate Tallman Sweet, Wm. Springer, Fremont	2 00
Second best, Wm. F. Dougherty, Preble	1 00
Best plate Golden Russet, Geo. Jeffrey, Milwaukee	2 00
Second best, Chas. Hirschinger, Baraboo	1 00
Best plate Willow Twig, Chas. Hirschinger, Baraboo	2 00
Best plate Wealthy, Chas. Gould, Lake City, Minn	2 00
Second best, Geo Jeffery, Milwaukee	1 00
Best plate Pewaukee, Geo. P. Peffer, Pewaukee	2 00
Second best, Chas. Hirschinger, Baraboo	1 00
Best plate Utter, Wm. Springer, Fremont	2 00
Second best, Chas. Hirschinger, Baraboo	1 00
Best plate Alexander—Discretionary premium—John Adam, Markesan	2 00
Best plate Ben Davis, Geo. Jeffrey, Milwaukee	2 00
Second best, Wm. Springer, Fremont	1 00
Best plate Wolf River, Wm. Springer, Fremont	2 00
Second best, E. W. Daniels, Auroraville	1 00
Best display of Show Apples, not to exceed ten varieties, Geo. Jeffrey, Milwaukee	5 00
Second best, Wm. Springer, Fremont	3 00
Third best, Chas. Hirschinger, Baraboo	2 00
Best exhibition or show of Seedlings, not to exceed ten varieties, E. Wrightman, Weyauwega	5 00
Second best, A. S. Bennett, Weyauwega	3 00
Third best, Wm. Springer, Fremont	2 00
Best Local or County Society exhibition, Brown Co. Hort. Society	10 00
Second best, Waupaca County Horticultural Society	7 00
Third best, Freedom Horticultural Society	5 00
Best New Variety, Wolf River, Wm. Springer, Fremont	2 00
Best single Winter Variety Seedling, Northwestern Greening, E. W. Daniels, Auroraville	3 00
Second best, Wm. Springer, Fremont	2 00
Third best, Geo. Jeffrey, Milwaukee	1 00
Best and greatest display of crab apples, Geo. P. Peffer, Pewaukee	2 00
Second best, Geo. Jeffrey, Milwaukee	1 00
Best and greatest display of pears, Geo. Jeffrey, Milwaukee	2 00
Second best, Geo. P. Peffer, Pewaukee	1 00
Best and greatest display of grapes, with written statement of manner of keeping, Geo. P. Peffer, Pewaukee	5 00
Best plate single variety of grapes, Geo. Jeffrey, Milwaukee	2 00
Second best, Geo. P. Peffer, Pewaukee	1 00
Largest and best display of fruits, all kinds, Geo. Jeffrey, Milwaukee	7 00
Second best, George P. Peffer, Pewaukee	5 00
Third best, Chas. Hirschinger, Baraboo	3 00
Best exhibition of Flowers, T. Noehle, Green Bay	3 00

A. G. TUTTLE, OLIVER GIBBS, JR,
D. T. PILGRIM, J. C. PLUMB,
J. P. ROE, B. F. ADAMS.

Committee.

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RULES OF EXHIBITION.

FOR EXHIBITORS.

I. All articles must be entered *in the name of the grower.*

II. All exhibits must be upon the tables by Wednesday, December 19th, at 2 P. M. (unavoidable delays excepted), properly arranged and labeled, and accompanied with a complete list of the same, by the exhibitor. After that hour no change will be allowed until after passed upon by the Judges.

III. Exhibitors, if requested, must certify to the Judges that the articles were grown by them.

Persons not members of the State Horticultural Society may become exhibitors by the payment of an entry fee of one dollar to the President or Secretary at the time of making application. This fee will entitle them to all the rights and privileges of members of the Society for the coming year. Impartial judges will be appointed at the meeting.

The Committee on Nomenclature will assist in naming fruits if desired.

Printed labels will be furnished to exhibitors by the secretary.

FOR JUDGES.

I. No article can compete in two or more classes, or twice in the same class, except in exhibitions made by local societies.

II. Where the premium list specifies the number of each kind necessary to compete, the *exact number* must be presented — *no more, no less.*

III. "Best" shall be understood to include: 1. Adaptation; 2. Productiveness; 3. Quality; 4. Size and color.

IV. Three specimens should go to a plate, except for show displays.

J.M. SMITH,
President.

WILLIAM TRELEASE,
Secretary.

In connection with the reports placed on record at this meeting on the history and present condition of the seedling apple trees in this state, your committee would say that they have been much gratified with the creditable showing of the fruit of these trees, of which there are on your table about fifty varieties. Their size, color and form are up to a high standard, and there are many of good cooking quality and a few that are really choice in texture and flavor. The display of seedlings is very encouraging. It is an evidence of the value of the efforts being made by farmers and others to produce desirable varieties by planting selected seeds, and we hope the best of these sorts will be distributed widely and given a trial to test their general adaptations.

Of two single varieties given first prizes, we have very strong testimony as to hardiness and general adaptation, while the large size and high colors of one (Wolf River), and the fine quality, size and beauty of the other (Northwestern Greening), give both varieties a conspicuous position among the fruits of this class in the northwest.

O. GIBBS, JR.,
Chairman.

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The following resolutions were entered by Mr. Huntley:

WHEREAS, The Horticultural Society is in need of greater facilities for the enlarged work it is called upon to do, in giving proper direction to the horticultural industries of this great state; and

WHEREAS, This society is dependent on the good will of the people for the necessary funds to successfully prosecute this work; therefore,

Resolved, That we hereby urge the officers of the Wisconsin State Horticultural Society to ask the state at the next session of our legislature for such an increase of the annual appropriations to this society as will enable it to secure the services of an efficient entomologist, in the interest of agriculture in general, and of horticulture in particular; and also to provide such additional clerical assistance as will enable the society to preserve and place before the people the discussions and the work of the society.

Resolutions of thanks were also adopted to the several railway companies who had granted reduced fare to members, and to the citizens of Green Bay for their unbounded hospitality to members from abroad.

In the evening the members of the Society enjoyed a supper provided by the ladies of the Presbyterian church, and the following toasts and responses were given: "The State Horticultural Society," response by Pres. Smith; "The Needs of Our Society," by Treas. Matt. Anderson, of Dane county; "The State University," by Prof. Wm. Trelease, of Madison; "The Agricultural Press," by J. C. Plumb, of Milton; "The Need for Lady Workers in our Society," by Mrs. V. H. Campbell, of Evansville; "Woman's Work," by Mrs. I. E. Tilson, of West Salem; "Aims of Horticulture," G. J. Kellogg, of Janesville; "'63 and '83," by S. Barter, of Markesan; "Green Bay and its Harbor," by A. G. Tuttle, of Baraboo; "The Ladies of Green Bay," by B. S. Hoxie, of Cooksville; "Does the Flower Garden Pay?" by O. Gibbs, Jr., of Minnesota; Homes of the People," J. P. Roe, of Oshkosh; "Citizens of Green Bay," by B. F. Adams, of Madison; "Turkey," by H. J. Huntington, Esq., of Green Bay.

These five-minute speeches brought out the sentiment of both speaker and topic, and were especially useful, showing the humor and pathos, the sense and nonsense, as well as the real "timber" of the working members of the State Horticultural Society."

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ANNUAL MEETING AT MADISON.

BOARD OF SUPERVISION ROOM,
CAPITOL, FEBRUARY 4, 1884.

In pursuance to notice, the society was called to order at 7:30 P. M., President J. M. Smith in the chair. After a few informal remarks on the plan of the meeting, the following address was read by the President:

Members and friends of our State Horticultural Society: It has been said of a celebrated astronomer, that he was as much pleased when he demonstrated some theory to be untrue, some supposed facts not to exist, as if both had proven to be well founded in truth. "For," said he, "they are now shown to be worthless and untrue, and no one need spend any farther time in their investigation."

If this maxim be correct, the friends and followers of horticulture in this state have in this respect done a great work within the last twenty or twenty-five years; and should meet together with great rejoicing, although, as a rule, their pockets are not well lined with either greenbacks or government bonds. Do you ask what they have done?

Twenty-five years ago, horticulture in our state, was in its infancy. Our nurserymen and orchardists just getting started, and were full of hope, zeal and enthusiasm.

They had their fathers' experience at the east, as well as their own knowledge to aid them upon the road to a grand success. Why should not the most desirable of the apples and pears of New England do well here? The snow was no deeper, if as deep, here in winter as in Maine. The weather no colder than in New Hampshire and Vermont. The winters were no longer, if as long, as in northern New York.

There was no apparent reason, and like practical business men, they invested both time and money in their laudable pursuits. The awakening came gradually, until the years from 1870 to 1875, when they were told in language not to be misunderstood, that their supposed theories were untrue, that their well believed facts did not exist.

In short, of all the varieties that were considered reliable

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at the east, what one of them can we count upon to-day as fairly safe to set in all portions of the state? In the north-eastern portion of it, the Fameuse and the Golden Russet have done fairly well. But this cannot be said of them in all parts of even the settled portions of it, to say nothing of the great northern district, as yet almost unbroken by the plow. Other varieties have succeeded, either wholly or partially, in other portions of the state. Still, as a whole, general failure must be recorded as the final result of so much expense, labor and time. What must or could be done? Our nurserymen were not of the class to stand still, or to give up the contest after a single failure, even though it was a serious one, and one that struck a sad blow at the financial interests of more than one of them. For the last twelve or fifteen years efforts have been made in many directions for such fruit trees as might be fairly commended in all portions of the state. That we are nearing such a point of time I fully believe. I cannot and will not yet believe that all the efforts that have been put forth, and are now being put forth to obtain, or to grow new and valuable seedlings will be in vain; or that the introduction of so many of the Russian varieties from the vast plains of Russia, where the winters are so much more severe in all respects than with us, and where the summers are shorter, are to result in failure. That all, or even a large proportion of them will prove to be of great value to us, perhaps none of us expect; but that all will be failures, I for one cannot and will not yet believe. I am glad that our friend Mr. Tuttle is demonstrating his faith in them in such a practical manner. I am sure that I only speak the wish of every friend of horticulture in our state, when I say that I most sincerely hope that his large young orchard of Russians will prove to be a splendid success.

Here comes in an element of great danger. Parties are already in the field selling what they call Russian trees. Can we not send out a note of warning that will reach some at least of those who would otherwise purchase this fraudulent stock, and save them from the consequent loss and disappointment attending it?

I presume that it is known to most or all of you that dur-

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ing the winter of 1884–5 there is to be a world's exposition at New Orleans. I have for some time been in correspondence with President Earle in connection with it. The managers have appropriated $100,000 for the purpose of building a Horticultural Hall, and have agreed to put in from $12,000 to $15,000 in premiums for that department. The intention is to have the largest and finest horticultural exhibition that the world has ever seen.

President Earle has been made general superintendent of that department, and from my knowledge of him, I do not believe they could have selected a better man. He, of course, saw our exhibition at the well-known New Orleans convention of the Mississippi Valley Horticultural Society. The Missouri collection alone exceeded our own, either in numbers or in appearance.

He is very anxious for us to make a very large exhibit there next winter. I have urged upon him the necessity of also having a complete vegetable department connected with it. Of course none of the details are yet arranged.

It seems to me that this is an opportunity for a display of the products of Wisconsin that we cannot afford to ignore, or in any manner neglect. It will show to the country and to the world what we have done, and what we can do. If we ignore the opportunity thus offered, it will be taken for granted, by thousands and tens of thousands of those who attend from other parts of the world, that we have not or can not grow fruit. This, none of us are willing to admit, though we have met with many disappointments in our efforts to make it a complete success. The late exhibition at Green Bay, I think, demonstrated the fact that even in a season of as near a complete a failure as we may ever expect, we still have some fruit worthy of exhibition. There will doubtless be some expense attending this exhibit, if one is attempted, and it may interfere with some of our home workor at least make it necessary that our members should attend conventions entirely at their own expense.

I will leave the matter with you, hoping that you will take some active measures in regard to it, and assuring you that

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you may rely upon my active co-operation in any practical measures that you may adopt.

Circumstances have lately compelled me to think more than usual about the future of our Society. There has been a feeling existing for some time past among some of our old and hard-working members that it would be better for us if we should do all of our work entirely separate from the State Agricultural Society. It has not in the past seemed to me that such a plan would be for the best, and I have favored a joint convention with the Agricultural Society, although I have been well aware that we could not but lose at least some part of our identity as a society by so doing; but hoped that the extra numbers that we could reach, and possibly influence, might compensate for the inconvenience, or perhaps more properly speaking the family feeling that has ever been one of the prominent characteristics of our Society, and which we cannot but partially or wholly lose in a joint convention.

We need, and by pursuing a good and systematic course, I believe we may secure a large list of annual members. I would recommend that hereafter in all of our conventions this be made one of the features. We need funds to enable us to pay our secretary for more of his time than he can afford to give us for his present allowance of $100 per year. I have lately received letters from members of the horticultural societies in some of our sister states in reply to some of my inquiries in regard to their finances. President Earle writes: "Our state society receives $2,000 per year from the state. We have our membership fees in addition, $1 each per year. We publish our own volume of transactions which is far better than having it done by the state."

Secretary Garfield writes as follows: "The state prints our volumes for us, 8,400 copies. Our sources of revenue are as follows: 1st. Membership fees of annual members. 2d. One-half of the fees of the annual members of our twenty-nine branch societies. 3d. The interest upon the fund created by life membership; principal about $2,000. 4th. We enter into a contract with the State Agricultural Society, guaranteeing them a large horticultural exhibition, getting

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it up and managing it in all of its details. Last year we did it for $1,400, and the amount of the premiums, $800 more. The fair costs us from $500 to $600, aside from the premiums. The entire amount of money received from branch societies is used in prosecuting that part of the work. In Kansas, the state pays the salary of the officers, leaving the membership fees, etc., for incidental expenses."

Secretary Ames, of Iowa State Society, writes: "Our society receives $1,000 per year from the state, and 5,000 copies of our report from 500 to 600 pages each."

Secretary Gibbs, of Minnesota State Society writes: "Our society receives $1,000 per year from the state, and our report printed, 3,500 copies and 500 pages."

Gentlemen, I will not comment upon these statements but leave them with you for your consideration.

Since receiving the above letters, I see by papers and other letters received, that some of these states are expecting much larger aid from their present legislatures than they have heretofore received. Two things are certain in this connection; one is that our state, although its finances are in a splendid condition, and our citizens generally prosperous, renders to our society far less assistance than is given in this manner by our sister states. Another is, that our society is doing far more work for the amount of aid received than any other organization in the state.

I do not say this by way of complaint, or for the purpose of asking that other appropriations may be reduced, but simply to state the facts as they seem to me to exist. Neither would I have our own society do any less than in the years past, but on the contrary more. Let us do more work and if possible do it better than we have ever done. I have the faith to believe that we shall eventually compel a recognition from both our fellow citizens and our state legislators that will be more in accordance with the needs of the work that we all know should be done. New railroads are being built in all directions through the northern portions of the state, new homes by hundreds and thousands are now, and for some years to come will be springing up on every new line of road, and it will be but a few years more before

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nearly the whole of northern Wisconsin that has hitherto been comparatively an almost unknown region, will be dotted with new homes. What shall they be, homes of beauty, comfort and happiness, or rude hovels where the inmates and owners simply eat, sleep and are sheltered from the cold and storms. The answer will depend much upon the friends of Horticulture, and let us see that our part is done promptly and done well.

On the conclusion of the address, Mr. Plumb spoke briefly upon the importance of acting on any suggestions made by the President tending to advance the prosperity of the Society, and introduced a resolution, referring the subject-matter of this address to a committee of three, who should carefully review it and report officially during this meeting. The resolution was carried, and the following committee was appointed by the chair: J. C. Plumb, Hon. B. F. Adams, and Hon. Matt. Anderson.

The president called attention to the necessity of action being taken by this Society, with respect to the international fruit exhibition, to be held at New Orleans, in connection with the World's Fair, and, on motion of Mr. Plumb, the part to be taken was referred to the following committee appointed by the chair: J. M. Smith, G. J. Kellogg, and A. G. Tuttle.

On motion the President appointed the following regular committees:

Programme — B. F. Adams, Samuel Hunt, and ——— Marsh.

Resolutions — Geo. J. Kellogg, I. N. Stone, B. S. Hoxie.

The Society then listened to the following:

SECRETARY'S REPORT.

While there seems no occasion for a lengthy report at this meeting, several points of vital interest to the Society should be brought before you, and I feel sure of your courteous attention while they are briefly passed in review.

In accordance with the past custom of the Society, dele-

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gates have been sent to the meetings of several local societies. So much has been said in favor of this means of unifying the numerous bands of workers whose labors tend in the same line with our own, that I need not enlarge upon the theme here; suffice it to say that wherever our delegates go they receive a most cordial welcome and come back with a live interest in the work of the society they have visited; while, on the other hand, these societies, laboring of necessity under greater disadvantages than those lying in the path of the State Society, appreciate the encouragement and good will we carry to them. While I am not prepared to express an opinion entirely favorable to the holding of local fruit and flower displays, the expense of which shall fall to any great extent upon the State Society, while it has at its disposal but a small sum of money each year, I am most heartily in sympathy with all measures within our power likely to cement a bond of union between the isolated workers of the state. The State Society has more than once given the stimulus requisite for the organization of new local societies, but experience shows that we should do more than this. The state has generously put us upon a footing which renders it possible for us to encourage and assist these societies, and the more prosperous and active they become through our instrumentality, the more confident ought we to feel that we are faithfully fulfilling the duty with which we are charged by the state.

The Society is very much in need of additional room. At present we enjoy the use of a few alcoves in the room occupied by the State Board of Supervision in the capitol. These, however, are insufficient for the proper arrangement of the small but growing library of the Society, and it is now next to impossible for anyone to find certain volumes that should be readily accessible. Your secretary has not even a desk in the capitol, all of his official duties being performed elsewhere. This is a misfortune to the Society as well as to its officer, for persons interested in horticulture when visiting the city, naturally go to the capitol, where they get the impression that this Society, being without a local habitation, is likewise almost without a name.

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It will be readily seen, however, that until you can employ the exclusive service of a secretary, you cannot count on his or her presence in any office of the Society for but a limited time, and I would most urgently bespeak the active influence of each member of the Society in an effort to secure such additional aid from the state as shall enable you to control all of the time of a secretary and librarian.

Closely connected with the question of a library is that of instructive collections. The subject of wax fruit has already been considered, but the executive committee has added no new models to those procured two years ago. The suitable display of such models, properly labeled, requires far more case room than we now have.

Natural History collections of interest to the farmer and fruit grower are much needed in this, the capital of an important agricultural state. The information which can be conveyed to casual or special visitors by a well displayed series of carefully selected specimens of weeds and useful plants, or of noxious and beneficial insects or birds, beside being of a practical nature, is often such as to lead to an interest in botany and zoölogy, which later manifests itself in the performance of good work in these lines. While trained scientists are not made in this way, many a close observer of nature owes his first stimulus to the inspection of a well arranged synoptical room.

But the formation and display of such collections is a matter of much time and labor, involving not only the services of specialists, whose time is often largely occupied with other duties, but the preparation of suitable rooms and cases in which the objects may be seen, while protected against careless handling. For these reasons the formation of such collections cannot now be undertaken with any prospect of success by this society, although the nucleus of an entomological collection has generously been tendered by Dr. Hoy. Such collections are, however, now being formed in the departments of the State University most closely connected with horticulture, though suitable provisions for their arrangement and display are made but slowly. The Horticultural Society and other state organizations whose aim is the

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promotion of agriculture and agricultural science, cannot do a better work than to aid in this effort which is being made in their interest.

At the Green Bay meeting in December, action was taken with a view to securing the services of a state entomologist. No more important step can be taken than the appointment of such an officer, and every farmer in the state, of whatever society or political party, should feel a personal interest in this movement. While the duty of giving instruction in economic entomology in the University devolves upon me, I am endeavoring to perform in part the work of a state entomologist, by answering inquiries; but this is the least important part of the work, and we should have a competent man able to devote the greater part of his time to original investigation. Such a man would gain in strength by a connection with the University which should demand of him nothing but the required instruction in economic entomology given to agricultural students, and it is to be hoped that when we secure such a man, the farmers of the state may thus receive from him a twofold service.

Presumably all of the members of this society are aware that the present publication law restricts the size of its annual volume of transactions and proceedings to two hundred pages, a size far too small for the amount of horticultural matter that the society collects each year for publication. The major part of the edition is also bound, by law, in a large volume, over the distribution of which this society has no control. While there are arguments in favor of such an arrangement, it appears to me prejudicial to the best performance of the duties of the society as outlined in the act for its reorganization and in its constitution, and your attention is respectfully called to the desirability of some action calculated to secure a restoration of the former publication privileges accorded to the society.

Respectfully submitted,

February 4, 1884. WM. TRELEASE,

Secretary.

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On the conclusion of the report Mr. Plumb called up the recommendations of the secretary for consideration and adoption. On motion, the chair was instructed to appoint a committee of three to secure, if possible, a suitable room in the capitol for the use of the Horticultural Society, and the following committee was named: Hon. Matt. Anderson, Hon. H. C. Adams and J. C. Plumb.

The need of an entomologist among the state aids to Agriculture was discussed at some length, and Mr. Trelease was assured of the hearty support of the Society in the efforts making for the appointment of such an officer.

On motion of Mr. Kellogg, Hon. H. C. Adams and Hon. Matt. Anderson were appointed as a committee to memorialize the next legislature with regard to the state publication law as applying to the the transactions of this society, with a view to securing such alterations as in their judgment and that of the society may seem desirable.

After listening to and adopting a programme for the business sessions of the ensuing day, presented by the committee on programme, the society adjourned at 9:40 P. M., to reconvene the next morning at 9.

FEBRUARY 5, 1884.

The society met at 9:30 A. M., President Smith in the chair. Before the regular programme was taken up the Society listened to some remarks by Mr. A. W. Sias, of Rochester, Minn., the delegate of the Minnesota State Society

Oliver Gibbs, Jr., of Lake City, Minn., Secretary of the Minnesota Society, spoke briefly, assuring the members of the Wisconsin Society that Minnesota horticulturists always feel at home in their state, and that they always esteem it a special pleasure to make Wisconsin men at home on their side of the boundary lines between the sister states.

On motion, J. S. Harris and A. W. Sias were made honorary members of this Society for the next year, and cordially invited, with Mr. Gibbs, who was similarly elected at Green Bay, to take an active part in our doings. The treas-

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urer's report was then read and referred to the Finance committee.

The committee on Nomenclature offered a report on the rules of the American Pomological Society, referred to them at Green Bay for action. After some discussion and a few slight modifications, the following rules were adopted:

REPORT OF COMMITTEE ON NOMENCLATURE.

At the last meeting of the American Pomological Society, the venerable president, Marshall P. Hilder, in his opening address, recommended a radical reform in the department of nomenclature, by which we would in time secure more sense and less of show in our names of fruits.

"We should have a system of rules consistent with our science, regulated by common sense, and which shall avoid ostentatious, indecorous, inappropriate and superfluous names. Such a code your Committee have in hand, and I commend its adoption. Let us have no more Generals, Colonels or Captains attached to the names of our fruits; no more Presidents, Governors, or titled dignitaries; no more Monarchs, Kings or Princes; no more Mammoths, Giants, or Tom Thumbs; no more Nonesuches, Seek-no-furthers, Ne plus ultras, Hog-pens, Sheep-noses, Big Bobs, Iron Clads, Legal Tenders, Sucker States, or Stump-the-World. Let us have no more long, unpronounceable, irrelevant, high-flown, bombastic names to our fruits, and, if possible, let us dispense with the now confused terms of Belle, Beurre, Calebasse, Doyenne, Pearmain, Pippin, Seedling, Beauty, Favorite, and other like useless and improper titles to our fruits. The cases are very few where a single word will not form a better name for a fruit than two or more. Thus shall we establish a standard worthy of imitation by other nations, and I suggest that we ask the co-operation of all pomological and horticultural societies, in this and foreign countries, in carrying out this important reform.

As the first great national Pomological Society in origin, the representative of the most extensive and promising territory for fruit culture, of which we have any knowledge, it became our duty to lead in this good work. Let us continue it, and give to the world a system of nomenclature for our fruits which will be worthy of the Society and the country — a system pure and plain in its diction, pertinent and proper in its application, and which shall be an example, not only for fruits, but for other products of the earth, and save our Society and the nation from the disgrace of unmeaning, pretentious and nonsensical names, to the most perfect, useful and beautiful productions of the soil the world has ever known."

Your committee recommend the adoption of the above suggestions, and also the following concerning the naming

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and exhibition of fruits under the auspices of our Society, both substantially as adopted by the American Society.

SECTION I.

NAMING AND DESCRIBING NEW FRUITS.

Rule 1 — The originator or introducer (in the order named) has the prior right to bestow a name upon a new or unnamed fruit.

Rule 2 — The Society reserves the right, in case of long, inappropriate, or otherwise objectionable names, to shorten, modify, or wholly change the same, when they shall occur in its discussions or reports; and also to recommend such changes for general adoption.

Rule 3 — The names of fruits should, preferably, express as far as practicable, by a single word, the characteristics of the variety, the name of the originator, or the place of its origin. Under no ordinary circumstances should more than a single word be employed.

Rule 4 — Should the question of priority arise between different names for the same variety of fruit, other circumstances being equal, the name first publicly bestowed will be given precedence.

Rule 5 — To entitle a new fruit to the award or commendation of the Society, it must possess (at least for the locality for which it is recommended) some valuable or desirable quality or combination of qualities, in a higher degree, or equal to any previously known variety of its class and season.

Rule 6 — A variety of fruit, having been once exhibited, examined and reported upon, as a new fruit, by a committee of the Society, will not thereafter be recognized as such, so far as subsequent reports are concerned.

SECTION II.

COMPETITIVE EXHIBITS OF FRUITS.

Rule 1.— A plate of fruit must contain not less than three nor more than six specimens, except in the case of single varieties, not included in collections.

Rule 2.— To insure examination by the proper committees, all fruits must be correctly and distinctly labeled, and placed upon the tables during the first day of the exhibition.

Rule 3.— The duplication of varieties in a collection will not be permitted.

Rule 4.— In all cases of fruits intended to be examined and reported by committees, the name of the exhibitor, together with a complete list of the varieties exhibited by him, must be delivered to the Secretary of the Society on or before the first day of the exhibition.

Rule 5.— The exhibitor will receive from the Secretary an entry card, which must be placed with the exhibit, when arranged for exhibition, for the guidance of committees.

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Rule 6.— All articles placed upon the tables for exhibition must remain in charge of the Society till the close of the exhibition, to be removed sooner only upon express permission of the person or persons in charge.

Rule 7.— Fruits or other articles intended for testing, or to be given away to visitors, spectators, or others, will be assigned separate space, where they may be dispensed at the pleasure of the exhibitor, who will not, however, be permitted to sell and deliver articles therein, nor to call attention to them in a boisterous or disorderly manner.

SECTION III.

EXAMINING AND AWARDING COMMITTEES.

Rule 1 — All competition exhibitions must be first examined by the committee on Nomenclature, whose duty it is to assist so far as they can in giving and presenting the correct names of all fruits.

Rule 2 — In estimating the comparative values of collections of fruits, committees are instructed to base such estimates strictly upon the varieties in such collections which shall have been correctly named by the exhibitor, or after action thereon by the committee on Nomenclature.

Rule 3 — In instituting such comparison of values, committees are instructed to consider: 1st, the values of the varieties for the purposes to which they may be adapted; 2d, the color, size, and evenness of the specimens; 3d, their freedom from the marks of insects and other blemishes; 4th, the apparent carefulness in handling, and the taste displayed in the arrangement of the exhibit.

J. C. PLUMB,
GEO. J. KELLOGG,
GEO. P. PEFFER,
Committee.

The society took up the revision of the fruit list on the conclusion of this business, leaving it as it stands in this volume.

Mr. Plumb moved the appointment of a committee by the chair whose duty it should be to examine and report on new fruits. The motion was carried, and the duties devolving upon such committee were assigned by the chair to the standing committee on Nomenclature.

Adjourned to 2 P. M., at 12:30 P. M.

The society reassembled at 2 P. M., President Smith in the chair, and proceeded to the election of officers. The first ballot resulted in the re-election of the old board of officers. Mr. Trelease stated that his University and other duties so

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fully occupied his time, that he did not feel able to fill the office of secretary to the society for another year, nor could he give the society the time that its present needs demanded of its secretary, and while he was in hearty sympathy with the society and should work for and with it to the extent of his ability, he felt obliged to decline re-election, although this proof of its confidence was very gratifying to him. A ballot was then cast for secretary, resulting in the unanimous election of Mrs. H. M. Lewis of Madison. The executive committee was then completed as it now stands, and on behalf of this committee the other standing committees were appointed as they appear in this volume.

After listening to the reports of the committee of Observation, and the reports of local societies, the Society was invited by President J. S. Harris, of the Northwestern Horticultural Society, to hold its next summer meeting in La Crosse, in connection with the latter society. On the suggestion of the President, action on this invitation was deferred until the evening session.

On motion, Article VII of the By-Laws was amended by the insertion of the words "and new fruits" after "committee on Nomenclature."

And the committee appointed reported a programme for Wednesday, February 6.

After which the society adjourned until evening.

The following resolutions, introduced by Mr. Plumb, were unanimously adopted:

WHEREAS, During the past year there has deceased, Dr. John A. Warder, of Ohio, of world wide reputation as a horticulturist, and most prominent in our country as a practical pomologist; one whom this society has occasion to hold in grateful remembrance for his invaluable contributions to western apple growing and forestry, as well as for his genial nature, which made him welcome in all our social and convention work in the interests of science and humanity,

Resolved, That a brief memorial history of the life and services of Dr. Warder in the interests of pomology, be furnished by a committee of this society for its next volume of report.

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In accordance with the above action, the committee appointed for the purpose presented the following:

IN MEMORIAM.

DR. JOHN A. WARDER.

This eminent pomologist died at his home in North Bend, Ohio, July 14, 1883, in the 72d year of his age. Born near Philadelphia, Pennsylvania, his early life was spent in a suburban home called "Woodside," where he early showed his love of nature, which he cherished through life, always a careful observer of nature.

When at eighteen years of age, moving with his parents into the then wilderness of central Ohio, he became identified with the progress of that state in its science, art and agriculture. Graduating from the Jefferson Medical College of Philadelphia, in 1836, he settled in Cincinnati the next year, where the most of his active and studious life was spent, identifying himself with its public school system and other kindred interests as a philanthropist. He became a member of the American Science Association in 1851, and for many years was an active official in various state and national associations for the advancement of the sciences, president of the Ohio State Horticultural Society, the American Forestry Association, and vice-president of the American Pomological Society.

As a writer, Dr. Warder was prolific, poetical and practical, having rare combination of elements which made his contributions welcome in all the literature of science.

In fruit growing, his great work is Warder's Pomology, which is yet standard authority in the west, and second only to Downing's great textbook, in America.

The *American Journal of Forestry* for August 1883, gives a list of twenty-five important papers, furnished to the public, on the subject of Forestry and Tree growing within the last eight years. Warder's "Hedges and Evergreens" is probably the best work on those topics extant.

Since 1855, when he removed to his home at North Bend, his life had been devoted to the advancement of horticulture and kindred arts. He was a member of the Society of Friends, and himself a living witness to the gospel of love, peace and good will, with no shade of doubt as to the Creator of the world of nature he loved so well.

One has well said of our departed friend, "a pious philanthropist, a polished philosopher, and a practical pomologist. The world gives us but few such shining examples, and we mourn his departure."

J. C. PLUMB,
B. F. ADAMS.
Committee.

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EVENING SESSION.

President Smith in the chair. The question of the World's Exposition at New Orleans came up. Mr. Smith asked if Wisconsin should have an exhibit.

Mr. Peffer said that the prospect for fruit was good, but no exhibit could be made without an appropriation for personal and state premiums.

Mr. Gibbs said Minnesota made an exhibit of apples and grapes at Philadelphia on $400 but that was not enough to make an exhibit at New Orleans.

The matter was now before congress asking for $500,000 to aid all the states in this work.

Resolutions adopted by the Mississippi Valley Horticultural Society were read by Mr. Gibbs. He spoke of the great benefits arising to the state for advertising the products of the same.

Mr. Hoxie said if the funds can be provided we should make an effort. Our own state is niggardly in making horticultural appropriations. We ought to unite and co-operate with Minnesota in a grand northwest movement.

Mr. Tuttle stated that we could make a creditable show with or without state aid.

Mr. Peffer said a committee should be appointed to make ample collections and arrangements — using the facilities of cold storage to continue and replace early fruit.

On motion, the invitation of President Harris to meet with and co-operate with the North Western Society as usual in holding a summer convention at La Crosse, the motion prevailed.

Mr. Gibbs made some remarks on experimental stations in the United States. He considered that great good resulted from them. He spoke of the great importance of having a national station which should disseminate knowledge to the rural districts of the states.

Resolutions of the Mississippi Valley Horticultural Society were read and adopted.

Mr. Tuttle spoke of the list of cion importations by the United States. He said they were not from the central por-

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tions of Russia. Fruit from the central and southern part will be found applicable to our whole land, north and south.

Mr. Harris believed we should find in them fruit suited to our wants, for they were adapted to all climates.

Mr. Sias had tested many varieties, both apple and crab—finds apple stocks best. He gave a list of choice Russian apples.

Mr. Tuttle told of his successes and failures of top working on crabs, etc.

Mr. Daniels gave his experience in top working on crabs.

Mr. Peffer believes the hybrids from the New Russians will bring the best variety of fruits; the children will be better than the imported stock.

The researches in Russia show pears to be grown one degree further north than apples—the roots penetrate deeper than apple; trees with-tap roots after passing two years on dry high soil will succeed.

FEBRUARY 6, 7:30 P. M.

The first thing in order was the report of committee on conference with Agricultural Society, committee composed of Messrs. Martin and Newton, of the Agricultural Society, and Messrs. Anderson, Plumb and Adams of the Horticultural Society, on the question arising between the secretaries of the two societies. The committee from the Horticultural Society exonerated Prof. Trelease from all blame in the general arrangement of programme.

The following resolution presented by B. S. Hoxie from committee on resolutions passed unanimously:

WHEREAS, Prof. Wm. Trelease, owing to a press of duties in other directions declines a re-election and the work assigned to him in the State University precludes him from giving the time which ought to be devoted to our society. Therefore, in view of these facts we, as members of the Wisconsin State Horticultural Society tender to Mr. Trelease our thanks for his untiring zeal and work for our interest during the past year and further affirm that in our opinion no blame can attach to him for the lack of harmony which seems to exist between the two societies Agriculture and Horticulture; and further that in parting company with him as a sec-

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retary of our society we hope that he may in the future find time to assist us in the work of our society not conflicting with his duties in the University.

B. S. HOXIE,
G. J. KELLOGG,
I. N. STONE.

CHESTNUT GROWING NORTH OF 44°.

By OLIVER GIBBS, JR., of Lake City, Minnesota.

Mr. President and Members of the Wisconsin Horticultural Society: At your recent meeting in Green Bay, mention was made of some chestnut trees growing and doing well in Waupaca county, in your state, and their hardiness was attributed in a speech by John P. Roe, of Oshkosh, to their having been grown from northern seed.

For the following facts about them, obtained since that meeting, I am indebted, first, to Mr. A. L. Hutchinson, postmaster of Weyauwega, who placed me in communication with the grower, and second, to the grower himself.

I give the questions submitted and the answers furnished:

1. Name and P. O. address of the grower. Alvin S. Bennet, Weyau wega Wisconsin.
2. Number of trees. Ten.
3. When planted. Seed in 1858, transplanted to fence corners in 1859.
4. Location where the seed was grown. Groton, Massachusetts.
5. Soil and exposure of the tree. Sandy soil, gravelly subsoil; northern slope.
6. Present condition of the trees. Good; A. No. 1.
7. How cold was it at Weyauega in the winter of 1882-3. 40° below zero.
8. Latitude where the trees are growing. 44°, nearly 45°.
9. Any other information as to treatment of seeds, how planted and cared for.

After answering all the forgoing questions except the ninth Mr. Bennett writes me as follows, in a letter dated January 9:

"My experience would be to get the seeds for chestnut-growing as far north as they will mature before the frost opens the burs. Keep them moist till the following spring,

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but be careful not to let them mold. Plant in drills, cover about two inches deep, make as much growth the first year as possible. Mulch the ground around the roots every winter till some of the roots get down below the lowest line of frost. When my trees do not make a good growth the first year, I heel them in my cellar and reset them in the spring.

"I have never lost any chestnut trees by the frosts or the cold winters. I have no trees for sale."

Mr. Bennett sent me with the above letter specimens of the wood of these trees said to be of 25 years growth, and burs of the season of 1883, which are herewith presented for inspection. As will be readily seen the wood shows no sign of weakness or injury.

Mr. Gibbs presented a fine sample of the wood, and some finely developed burrs. He thinks the dwarfish condition of the trees is what gives the key to success.

Mr. Peffer has had trees thirty-one years. They should be planted where they are to stand.

Mr. Sias saw trees bearing in Minnesota. He has trees growing from the nuts he has planted. Mr. Tuttle thinks proper soil and slow growth the result of success.

Mr. Harris, of Minnesota, thought they would not succeed on clay soil. He had them growing on different soils.

Mr. Daniels and Mr. Palmer both have them growing.

The secretary, Mrs. Lewis, read a letter from J. S. Stickney, in Florida.

Mr. Gibbs and Mr. Kellogg discussed the fruit and soil questions. They argued that the soil of Florida was poor and almost worthless for nearly everything but oranges and a few kinds of vegetables.

Senator Anderson spoke enthusiastically of California as the land of fruit.

Mr. Tuttle read a paper upon "The Russian Fruits."* He prefaced it with a few remarks upon the physical geography of Russia.

After the reading of the paper, Mr. Smith asked how many varieties of Russian apples Mr. Tuttle had. Mr. Tuttle said

* Printed in the Transactions of the Agricultural Society.

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he had two hundred trees, but if he had a dozen varieties of good reliable apples, he should be content. One variety is the earliest and best of any variety he knows. This early apple is better than the Tetofsky, beautiful and free from scab.

Mr. Plumb asked if Mr. Tuttle had fruited the Champaign; he did not consider it valuable. Mr. Plumb had little faith in Russian apples.

Mr. Tuttle had Russian apples in bearing five years.

Mr. Gibbs believed that temperature, dampness, etc., was the cause of success or failure. Fruit was raised in Russia, 700 miles north of Madison. If we could get the proper varieties of apples, they could be raised as far north as Manitoba.

Mr. Plumb questioned Mr. Tuttle in regard to quality; while some apples keep well, they will not be valuable because they lose flavor and quality. He said, if we succeed in getting ten or even five varieties that will grow and do well in our climate, we should be well paid.

Mr. Adams read a report on Finance.

The committee on Finance, to whom was referred the report of the Treasurer, respectfully report that they have examined the same, with accompanying vouchers, and find the report to be correct.

B. F. ADAMS,
I. N. STONE,
B. S. HOXIE,
Committee.

TREASURER'S REPORT.

Members of the Wisconsin State Horticultural Society:

Your Treasurer has to report the following as the business transactions of the past year:

RECEIPTS.

1883.			
Feb. 1.	By balance in treasury	$420 19	
Feb. 28.	By amount from F. W. Case, membership	23 00	
May 5.	By amount from Secretary Trelease, membership	10 00	
June 6.	By order of President Smith on State Treasurer	500 00	
June 27.	By cash from Jos. Scribner, Rosendale, membership	1 00	
June 27.	By cash from W. T. Innis, West Rosendale, membership	1 00	
Total			$955 19

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DISBURSEMENTS.

1883.			
Feb.	6.	To voucher No. 167	$26 00
Feb.	6.	To voucher No. 168	14 90
Feb.	6.	To voucher No. 169	13 00
Feb.	7.	To voucher No. 170	30 00
Feb.	7.	To voucher No. 171	50 00
Feb.	8.	To voucher No. 172	21 00
Feb.	8.	To voucher No. 173	37 75
Feb.	8.	To voucher No. 174	5 00
Feb.	8.	To voucher No. 175	6 50
Feb.	8.	To voucher No. 176	16 00
Feb.	8.	To voucher No. 177	6 00
Feb.	8.	To voucher No. 178	3 00
Feb.	8.	To voucher No. 179	14 00
Feb.	8.	To voucher No. 180	3 50
Feb.	8.	To voucher No. 181	50
Feb.	8.	To voucher No. 182	2 00
Feb.	8.	To voucher No. 183	3 00
Feb.	8.	To voucher No. 184	1 50
Feb.	8.	To voucher No. 185	5 00
Feb.	9.	To voucher No. 186	30 65
Feb.	9.	To voucher No. 187	13 05
Feb.	9.	To voucher No. 188	11 00
Feb.	9.	To voucher No. 189	11 46
Feb.	9.	To voucher No. 190	8 32
Feb.	9.	To voucher No. 191	4 25
Feb.	14.	To voucher No. 192	8 55
Feb.	14.	To cash paid G. J. Kellogg, expenses to Richland and Marengo conventions	9 54
Mar.	13.	To cash paid G. J. Kellogg, expenses to Baraboo convention	6 35
Mar.	15.	To cash sent F. W. Case, as per account	17 19
April	2.	To voucher No. 193	5 00
May	5.	To voucher No. 194	37 00
June	29.	To voucher No. 197	4 50
June	29.	To voucher No. 199	9 70
June	29.	To voucher No. 203	6 00
June	29.	To voucher No. 205	9 15
June	29.	To voucher No. 206	5 00
June	29.	To voucher No. 207	5 20
June	29.	To voucher No. 208	5 80
June	29.	To voucher No. 209	6 85
June	29.	To voucher No. 210	3 45
June	29.	To voucher No. 211	5 00
June	29.	To voucher No. 212	55 50
June	29.	To account of President Smith, as per receipts	29 55
June	29.	To order paid Ripon Horticultural Society	50 00
Dec.	20.	To voucher No. 213	6 60
Dec.	20.	To voucher No. 214	6 75
Dec.	20.	To voucher No. 215	41 00
Dec.	20.	To voucher No. 216	8 80
Dec.	20.	To voucher No. 217	8 80
Dec.	20.	To voucher No. 218	1 40
Dec.	20.	To voucher No. 220	8 02
Dec.	20.	To voucher No. 221	13 26
Dec.	20.	To voucher No. 222	28 50
Dec.	20.	To voucher No. 223	25 02
Dec.	20.	To voucher No. 224	3 00
Dec.	20.	To voucher No. 225	4 00
Dec.	20.	To voucher No. 226	26 22
Dec.	20.	To voucher No. 227	4 08

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DISBURSEMENTS.—CONTINUED.

1883.			
Dec. 20.	To voucher No. 228	7 20	
Dec. 20.	To voucher No. 229	14 04	
Dec. 20.	To voucher No. 230	7 20	
Dec. 20.	To voucher No. 231	54 20	
Dec. 20.	To voucher No. 232	9 00	
Dec. 20.	To voucher No. 233	5 00	
Dec. 20.	To voucher No. 234	4 00	
Dec. 20.	To voucher No. 235	3 00	
Dec. 20.	To voucher No. 236	2 00	
Dec. 20.	To voucher No. 237	5 00	
Dec. 20.	To voucher No. 238	3 00	
Dec. 20.	To voucher No. 239	7 00	
Dec. 20.	To voucher No. 241	2 22	
Dec. 20.	To voucher No. 242	3 00	
Dec. 20.	To voucher No 243	2 00	
1884.			
Jan. 20.	Paid J. C. Plumb expenses to Minnesota Horticultural Society	19 00	
Feb. 4.	Balance in hands of Treasurer	6 22	
			$955 19

All of which is respectfully submitted.

M. ANDERSON,
Treasurer.

The committee report on International Exhibit of Wisconsin Fruit at New Orleans, was reported, read and passed unanimously. It is as follows:

MADISON, Wisconsin, February 6, 1884.

WHEREAS, The managers of the World's Fair and Cotton Centennial, to be held at New Orleans, have provided for a grand international exhibition of horticultural products, to be opened December 4, 1884, and said department of horticulture having been placed in the care of the Mississippi Valley Horticultural Society, thereby enlisting the best efforts of western horticulturists, and promising the largest competitive exhibition of fruits ever known in this country or the world. And believing that Wisconsin can excel any other state in the Union in the display of varieties and of winter fruits, therefore,

Resolved, We hereby indorse the action of the Mississippi Valley Horticultural Society in their efforts to secure a full exhibition of the horticultural products of the entire Union, at this first international fruit exposition of the world; and we hereby request our representatives in both houses of congress to urge the passage of a bill to secure to each state an appropriation from the general government, sufficient to enable the several states to make a full and creditable display of their industries at said exposition.

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And should such an appropriation be made, we hereby pledge the Wisconsin State Horticultural Society to do its utmost to make said exposition a grand success.

Attest:

J. M. SMITH, *President.*
J. C. PLUMB, *Vice-President.*
MRS. H. M. LEWIS, *Recording Secretary.*

JEREMIAH M. RUSK,
Governor of Wisconsin.
DAVID ATWOOD,
Commissioner to the World's Fair and Cotton Centennial.

Society called to order at 7:30 P. M., President Smith in the chair. Mr. Plumb gave a report of the joint conference of the executive committee of the State Horticultural and Agricultural Societies.

Mr. Gibbs, secretary of the Minnesota State Horticultural Society, and Mr. Sias, delegate of that society extended a cordial invitation to the Wisconsin society to attend their summer meeting.

The society then listened to paper by Mr. A. L. Hatch, "Trouble Enough."

Mr. Harris thought too close planting the main reason for the destructiveness of the leaf blight and scab fungus (*fusecladlum dendreticum*).

Messrs. Harris, Kellogg and Tuttle thought the apple gouger the worst foe of the apple; they did not know how to prevent its ravages.

Mr. Daniels spoke of a gray-haired caterpillar, very destructive to the foliage of the hickory and black walnut. Prof. Trelease said he had seen it many times. He was making a critical examination of its habits; he was rearing it into perfect state.

The society then listened to a paper by Mrs. Lewis, of Madison, on "The Flower Mission."

At the conclusion of the reading, President Smith and Mr. Gibbs, of Minnesota, spoke briefly in praise of the work the ladies of the society were doing.

In behalf of the Northwestern Society, Mr. Harris, of Min-

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nesota, requested Mrs. Lewis to read the paper on Flower Missions, at the summer meeting at La Crosse.

The committee on Resolutions introduced the following resolutions, which were unanimously adopted, after remarks from several members heartily indorsing the subject matter:

Resolved, That the thanks of the Society are due, and we heartily tender them to the Milwaukee and St. Paul and the Chicago and Northwestern Railway Companies, for their courtesy to us in returning at one-fifth fare.

Resolved, That we hereby express our thanks to Governor Rusk for the use of the Senate chamber, and for his thought in so providing a room and attendance upon our wants as a Society.

B. S. HOXIE,
GEO. J. KELLOGG,
I. N. STONE,
Committee.

Mr. Plumb moved an appropriation of $25.00 to President J. M. Smith, for incidental expenses. Adopted.

Mr. Plumb reported the result of an informal interview — President Smith and himself, with Gen. David Atwood, the State Commissioner of the World's Exposition at New Orleans.

On motion of Mr. Hoxie, President Smith was authorized to fill out the committee called for by Mr. Plumb's plan for exhibit at his convenience.

Mr. Plumb introduced the following resolution, which was carried:

Resolved. That we respectfully ask Professor Wm. Trelease to continue his scientific researches for the benefit of the fruit growers of the northwest during the ensuing year, especially in the line of insects and fungoid affections of our trees and plants.

Mr. Kellogg put the following resolution, which was carried:

Resolved, That this Society urge upon representatives in congress to do all in their power to procure the passage of a bill providing for experimental stations in horticulture and forestry.

The following resolution, introduced by Mr. Kellogg, was unanimously adopted:

Resolved, That we believe the best interests of the Wisconsin State Horticultural Society demand, that we plan for an annual convention and an exhibit of winter fruits, with at least three days convention in some hall or room separate from any other society.

GEO. F. KELLOGG,
B. F. ADAMS.

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On motion of Mr. Trelease, the committee appointed to memorialize the legislature with regard to the publication privileges of the society be charged to take steps to secure such a modification of the organic law of the society as shall allow it to hold its annual meeting at points other than Madison whenever it shall seem best for the society to do so.

Mr. Hoxie moved the following amendment to the constitution, which was carried.

Resolved, That Article 3 of our constitution be so amended as to read annual members shall be those who pay the fee of one dollar, which shall entitle the wife of such member to the privileges of full membership.

Mr. Kellogg moved the appropriation of $100 for the salary of the Secretary for the ensuing year.

Adjourned *sine die*.

REPORTS OF LOCAL SOCIETIES.

REPORT OF GRAND CHUTE HORTICULTURAL SOCIETY.

The meetings of this society have been held quarterly the past year, at the homes of the members; the attendance has been larger than any former year. The most interesting meetings have been those held in mid-day with picnic dinner and papers and discussions in the afternoon, closing at 4 oclock P. M. For a farming community this is far preferable to an evening session. The exhibitions of fruits have been very creditable to exhibitors.

Plants and cut flowers have been shown at all our meetings. Our members are all much interested in the growth and beauty of the garden and lawn, and never cease to admire the plants and flowers of the conservatory and green house, but we have done no greater work the past year than in the many that have preceded it.

The last season has been one of many discouragements in fruit culture; many orchards have borne no fruit. Those who grow the Fameuse and Duchess had a medium crop.

Several of our members will set the Wealthy the coming

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spring; those who have fruited it believe it to be the best variety for this locality.

Cherries were an entire failure in this section. Currants have nearly disappeared from our gardens — in fact but few care to grow this old-time fruit.

Strawberries and raspberries are grown by many of the members; a few have set Stone's Hardy blackberry and find the fruit delicious.

The annual meeting of the society was held January 19th. The former officers were elected, viz.: L. L. Randall, president; Mrs. D. Huntley, secretary; A. H. Busch, treasurer.

MRS. D. HUNTLEY,
Secretary.

REPORT OF THE JANESVILLE HORTICULTURAL SOCIETY.

JANESVILLE, January 7th, 1884.

We would respectfully report that this Society is in a prosperous condition with a membership of fifty-two.

Efforts were made last winter to form a county society, but without success. A summer meeting was held in July with rather a small attendance, and past experience proves to us that a summer meeting cannot be made a success in this section.

The annual meeting was held in November. The report of the committees during the past year was made, received and placed on file. The treasurer's report was read, showing the finances to be in good condition, there being $98.80 remaining in the treasury after all the expenses for the year had been paid.

The secretary's report showed the amount received from the Rock county society to be $109, of which $93 was paid in premiums and $14 for the expenses for the year, leaving two dollars in the hands of the secretary.

The following officers were elected for the ensuing year: President, Geo. J. Kellogg; Vice President, E. L. Dimock; Secretary, E. B. Heimstreet; Treasurer, J. B. Whiting; Board of Trustees, B. Spence, J. J. R. Pease, D. E. Fifield, James Helms, A. B. Wickham and Dr. O. P. Robinson.

E. B. HEIMSTREET,
Secretary.

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FREEDOM HORTICULTURAL SOCIETY.

At the annual meeting, held January 19th, 1884, the following officers were elected for the ensuing year: President, Charles Hirschinger, Baraboo; vice-president, L. T. Allbee, North Freedom; secretary, George Faller, Baraboo; treasurer, George Armbuster, Jr., Baraboo; executive committee, S. D. Slentz, M. F. Nippert, and A. M. Petys.

GEORGE FALLER,
Secretary.

FREMONT HORTICULTURAL SOCIETY.

The horticultural society of the town of Fremont, Waupaca county, was organized December, 1880. It has eighteen members, citizens of the town, who take an interest in horticulture, are admitted by signing the constitution and paying 25 cents. The officers are a president, vice-president secretary, treasurer and executive board, elected annually. Two meetings are to be held each year, one during September, and one the second Thursday in January, at which time the officers are elected.

Our meetings are interesting, and much interest is manifested by most of our members. In July last we had a strawberry festival and a fine show of berries; and some very nice flowers were exhibited.

This part of Waupaca county is probably as well adapted to raising fruit as any part of northern Wisconsin, but the year 1883 has been too much for us, and we have been forced to content ourselves with the few inferior *crabbed* things left us by the most parsimonious year "within the memory of our oldest inhabitant."

Our officers are: President, C. F. Eaton; vice-president, J. M. Brown; secretary, J. Wakefield; treasurer, J. Steiger; executive board, W. A. Springer, chairman; Paul Scheisser, H. C. Isbell.

J. WAKEFIELD,
Secretary.

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MARKESAN HORTICULTURAL SOCIETY.

MARKESAN, January 21st, 1884.

The officers of this society the past year were: President, Miss Fannie L. Mather; vice-president, Mr. Chas. Lambert; secretary, Miss Enid Whittier; treasurer, Mrs. C. Whittier.

Several interesting meetings were held during the past year, at each of which were read instructive papers followed by a general discussion of same, music to cheer, when spirits lagged, and at many of the meetings roll was called where the response was to consist of some horticultural truth or maxim. This last proved to be quite an interesting feature of the meeting, calling forth certain members who before could not be induced to take part although they seemed much interested in the workings of the society.

A few meetings were held in the country where a picnic supper was served on the lawn.

Mr. S. Barter was sent as delegate to Green Bay to attend the State Horticultural Meeting in December, and reported very favorably. Our society has gained but few new members the past year. We hope the coming year will find many new names added to our roll of membership. We are weak but full of courage, are willing to work hoping to see good resulting in the near future.

The transactions of the State Horticultural Society for 1881 and 1882 received and many distributed.

Respectfully,

MISS FANNIE L. MATHER, *President.*
MISS ENID WHITTIER, *Secretary.*

THE NORTHWESTERN HORTICULTURAL SOCIETY.

There was a large attendance at the meeting of the horticultural society, Tuesday afternoon, June 26, 1883. The display of strawberries, flowers, plants and vegetables was very complete. The strawberry exhibit far surpassed anything ever shown here. Among the exhibitors were Messrs. E. Wilcox, J. S. Harris, E. Markle, J. Kræmer, J. Van Loon,

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N. Hintgen, Henry Guilmea and J. Petty. Mr. Hintgen had two varieties never before exhibited, one a seedling and one a foundling, a variety that was discovered among the other plants. Both of them bear remarkably fine fruit, have wonderful growths, and are loaded down with berries. Mr. Van Loon entered the Bidwell, a new variety not before exhibited. Mr. Petty had his seedling on exhibition, a large, luscious berry that is very prolific. Mr. Harris presented one plate of Charles Downing, the only one on exhibition. The strawberry table was a leading attraction. The Sharpless variety seemed to include the largest specimens.

Mr. A. J. Phillips, of West Salem, who was chairman of this department, announced the premiums as follows:

Five varieties: first, N. Hintgen; second, J. Kræmer.
Plate of Wilson: first, J. S. Harris; second, N. Hintgen.
Charles Downing: J. S. Harris.
Crescent-seedling: first, E. Wilcox; second, J. Kræmer.
Sharpless: first, N. Hintgen; second, J. Kræmer.
Captain Jack: J. Kræmer.
New variety: first, J. Petty; second, J. Kræmer.

The green-houses contributed largely to this exhibit. Kienahs & Son had a large collection, all choice specimens, including a splendid show of petunias, a century plant, a passion flower in bloom, cacti, etc. Mr. Salzer had a fine display also, the plants being remarkably clean and healthy.

Mr. Bork, from Oakwood green-house, had a beautiful exhibit. His ferns and begonias were particularly admired; particularly the Beethoven begonia, the leaf of which displays so many colors when exposed to the sun.

Mrs. G. C. Hixon had a stand of fine plants from her private collection. Among them was a moss rose bush, about eighteen inches high, which had about twenty large buds.

The award of prizes was as follows:

Collection of green-house plants: First, Paul Bork; second, John A. Salzer.
Collection of hot house plants by amateur, Mrs. G. C. Hixon.
Collection of plants in bloom, H. Kienahs.
Best roses by amateur, Mrs. G. C. Hixon.
Best bouquet of wild flowers, Alice Douglas.
Best pot-growing pansies (special, $5), H. Kienahs.

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The exhibit in the vegetable line included, lettuce, onions, raddishes, asparagus, pie-plant, etc., by the well known gardeners, J. S. Harris, J. C. Kræmer, D. Van Loon, H. Kienahs, Mrs. Henry Gillian, N. Hintgen.

Premiums were awarded as follows:

Display of vegetables, N. Hintgen.
Six bunches asparagus, J. Kræmer.
Six bunches of onions, N. Hintgen.
Six bunches of radishes, N. Hintgen.
Six stalks pie-plant, J. S. Harris.
Six heads lettuce, Mrs. Henry Gillian.
Best peck peas, N. Hintgen.
Best cauliflower, Mrs. H. Gillian.
Cucumbers, H. Hienahs.

The flower stand was a great attraction. There were several entries for the prizes, besides many complimentary bouquets and baskets. Mr. Salzer had a floral ship in full rig, sailing on a sea of roses and other blossoms. It was a very beautiful design and attracted great attention. Kienahs & Son had a beautiful basket with cups on the sides and handle which gave it a pyramidal form. The little basket of roses sent in by Mrs. P. S. McArthur, in the opinion of the reporter, was as beautiful as any of the floral entries. There were only a few roses in the basket, but they were large red roses and white ones intermingled, making a beautiful effect. Mrs. McArthur gathered them from her own collection of flowers.

White Beaver had offered a special premium for the best pot of pansies. Mr. Kienahs was the only entry and he took the premium.

Mesdames K. Hoegh, H. Cramer, A. Clinton, P. S. McArthur and C. B. Solberg sent in elegant baskets, not for competition, but for ornament. Mrs. Hosmer and Messrs. Wilcox and Petty showed several varieties of peonies and roses.

Alice Douglas took the first premium for the best bunch of wild flowers. Fred Powers and Charles Pettingill sent in their herbariums, showing school work in botany. They were very nicely prepared.

Miss Kienahs had a bouquet of wild flowers beautifully arranged in the afternoon display.

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Miss Clara Shepard, who was superintendent of the floral and house-plant display, is entitled to much praise for her painstaking and tasty manner in which everything was arranged and marked.

A paper was read in the afternoon by Mr. G. M. Reed for Dr. Renggley, who had prepared an essay for the occasion on the relation of the flora to poetry, art, religion and the mental culture of mankind.

Following the reading the society passed a vote of thanks to the doctor for preparing so admirable and interesting a paper.

Messrs. Sabin and Jewett of Sparta were present and were invited to address the meeting. Mr. Jewett said he would not take the time of the meeting. The Horticultural fair at St. Louis which he had just returned from was a great success. During his trip he had learned that fruit in many localities was destroyed and in others was not injured.

An intermission was then taken of twenty minutes to inspect the exhibits and make the awards. This over, Mr. Louis Pammel, Jr., a student of the State University, gave a practical lecture on injurious insects and fungoid growths and there was some brief discussion of the subject.

A letter from Rev. Robert Nourse was read, setting forth the merits of Mr. Salzer's early peas.

The afternoon closed with a general tour of the room and visits to the refreshment room, where strawberries and cream were served.

Secretary M. H. Cram, who has done everything he could to make the fair a success, having been actively engaged in the work for some time, is much pleased at the result and is entitled to great credit.

The meeting was called to order at eight o'clock, and a very pretty song, "The Fairest Daughter of the Year," was sung by the Glee Club in a most correct and charming manner. An essay was then read by Mrs. Ida Tilson, of West Salem, on "Horticulture as a Suitable Employment and Recreation for Women." She said that in these days when we lived so fast, we all required recreation, and especially women as being more sensitive and delicate than men. As women's

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work was mostly confined to the house, they ought to find healthy outdoor recreations. Croquet and riding and walking did not altogether fill the bill; something of more practical use was required. That was supplied by horticulture, the practical character of which is unquestionable. Horticulture is a valuable moral and physical exercise, and one quite within the scope of woman's powers, and taste and culture are greatly developed by it. Mrs. Tilson told the touching story of "Picciola," in illustration of the divine influence of a plant, which could bring a man from scepticism to Christianity. Moreover, a woman who has a garden, can educate her children in a most valuable way by object lessons and practical demonstrations. Women have been found who could manage a farm, and bees, poultry and silk culture are especially appropriate to them. The raising of fruit, berries and vegetables is easy and pleasant, and economical withal. Flowers are always useful for decorations, and as presents to one's friends, as well as for one's own pleasure. Again, women often become collectors of botanical specimens for museums, and this is most charming employment. Western tree claims are also becoming fashionable, and the work of forestry associations is excellent. No neglect of house work is entailed by these recreations, since they make women stronger and healthier and better able to do their work. Finally the examples of Queen Victoria, Mrs. Stowe and other eminent ladies were cited to sustain the argument.

After this very interesting address, which was much applauded, a quartette was sung by Miss Kate Lewis, Mrs. Smiley, Prof. Cleveland, and Dr. Overpeck. It was a beautiful song entitled "Twilight on the Sea," by Sudds, and it was excellently rendered.

Mr. Haskell read an essay on the "Utility of the Beautiful." He said that the beautiful was an expression of man's growth towards perfection. Horticulture was an agent of civilization and a cultivator of taste for æsthetic beauty. Flowers and fruits have essential value in improving our minds and characters. They are useful as a diversion from the concentrated effort of every day life. They have a positive influence in inspiring the intellect. Linnæu's passion

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for the beautiful led to his discovery of 300,000 species of vegetables, and brought him two centuries in front of his time. The beautiful prepares us for grander conceptions of religious matters, and influences our emotional and affectional natures to a high degree. It opens up the elevation of the whole race. It is God's divine agency for that purpose. The city parks and public gardens are a witness of this. Especially with the addition of music they are productive of the most sublime pleasure of which man is capable. Nor ought we to leave out of our calculations all the unwritten music and poetry. Every other influence, however, culminates in religious influence. In the Lord's Prayer we pray for the coming of a reign of perfect beauty. All souls are won to religion by the beautiful. The speaker concluded by quoting Keats' lines, beginning "A thing of beauty is a joy forever."

Mr. Cram moved a resolution of thanks to all who had contributed to the success of the meeting, namely, the county officials, the donators of funds and provisions, and the choir. The resolution was carried. Mr. Harris, the chairman, then moved that $10 be given to Mr. Cram from the funds of the Society, to reimburse him for his expenditure of time and trouble. Mr. Cram declined this, but it was put to the vote and carried.

Mr. Harris addressed the meeting, congratulating the society on the encouraging progress it had made, and speaking hopefully of the future. He said that people could become members at any time by the payment of $1 and leaving their names with Mrs. Powers, the treasurer of the society.

After a long recess, wherein strawberries and cream played their part, the exercises were concluded by the chorus, "O'er Forest, O'er Mountain and Meadow," from the oratorio of "Moses in Egypt." Miss Lewis, as soloist, acquitted herself capitally and was much applauded, and certainly the singing of last evening helped to verify Alderman Losey's speech at the Sængerfest, wherein he claimed for La Crosse the sweetest voices of the state.

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WAUPACA COUNTY HORTICULTURAL SOCIETY.

The present officers of this Society are: President, O. A. Rich, Weyauwega; vice-president, Alvin S. Bennett, Weyauwega; secretary, J. Wakefield, Fremont; treasurer, J. A. Matthews, Weyauwega; executive committee, W. A. Springer; chairmen, E. W. Wrightman, Geo. W. Taggart.

W. A. Springer, delegate to State Society.

At our fall meeting, held September 20, on the fair grounds in Weyauwega, Hon. Geo. J. Kellogg, of Janesville, was present, and gave an excellent address. The show of fruit was good, especially of grapes. A nice picnic dinner was discussed jointly with the members of the "Old Settler's Society.

Our winter meeting, at which our officers were elected, was held in Weyauwega, January 26, 1883. Hon. J. M. Smith, of Green Bay, President of the State Society, met with us, and read a very interesting and well-received paper. He told us about increasing garden truck—how to do it, and how not to do it. He also spoke of raising small fruits, especially strawberries, and gave us much sound advice. He closed by a few laudatory words in reference to our Waupaca county seedlings then on exhibition.

The following persons had apples on exhibition: President Rich, Springer, Matthews, Alvin S. Bennett, Hallis, Gibson, Mawhinney. Wrightman, of course, was on hand with his never-yet-beaten seedlings.

We have had another severe "trial of our faith" the past season. Some of our trusted friends have proved "not equal to the occasion." Another abridgment of our list of "hardy varieties" must be the result. Must we discard them all? We hope not. There certainly must be at least one variety that will not fail us, for we still believe that we can raise apples in Wisconsin.

We have forty-nine members, and our meetings are generally pretty well attended. The reports of the Society are eagerly sought after, and there should be some arrangement so that copies could be obtained by members of the local societies.

J. WAKEFIELD,
Secretary.

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REPORT OF COMMITTEE OF OBSERVATION.

SIXTH DISTRICT — ANDREW ANDERSON.

In making out my annual report for the sixth fruit district for the counties of Winnebago, Waushara, Adams, Green Lake, Sheboygan and Marquette, I will start out by saying I have taken such observation as my limited time would permit me to do. I commenced April 20 to examine my trees and look over the orchard and here I found the Fameuse, Pewaukee, Alexander, Ben Davis, all killed. From that time till May 18, cold, windy, wet, and several light frosts at night. May 22, a heavy frost. Last night the Duchess of Oldenburg, budding out, was somewhat hurt by the frost. From this time till June 30 we had wet, cold, stormy hail, frost, and in fact all the elements of nature went against us; it was the worst spring for all kinds of fruit known as more trees were killed and weather blighted in this county in May and June than ever before — trees came out in blossom all right, and in a few days it would commence to turn yellow, sick, and fall off, and then up in June dead; this happened among the Fameuse, Haas, Alexander, Ben Davis, and kept dropping off the small apples as big as hazel nuts from the Talman Sweet, Utter and Walbridge. In corresponding with several persons all over my district I found in general no apple except the Oldenburgs, and they seem to stand all the different changes of the atmosphere, and pay fifty per cent. better than any other kind growing; it is harder than the Russian crab, and all other crabs as far as I know. The blight was noticed more around here in Winnebago, Outagamie and Waushara than ever before. Those that suffered most were the Fameuse and Pewaukee. I have noticed it for years and kept a daily record of it, and I am now not much wiser than four years ago. I found the less top healthy roots, in others a well balanced tree stood it well. Those I stirred the ground around, say every few days, blighted the most, but it was always in the night. It could be noticed the next day in the middle of the forenoon to commence to wither, but out of 150 Duchess of Oldenburgs not one bunch

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was withered. Among the trees which are in my judgment unworthy to grow are the Ben Davis, Paul Janette, Price's Sweet, Perry Russett and Red Astrachan, as the latter is always sick in some form or other, and I have never known any one to get a crab off of them only once in five or six years; they cannot be depended on. Tetofsky is not a tree to be depended upon, it has been too highly recommended; in short we have only five or six kinds we can plant and depend on — even those are looking rather poorly.

The Wealthy have not been fruited around here so I don't know its merit; it will have to be tried — tested several years — then we will know about it; like the Pewaukee, which years back was considered frost proof and blight proof, but I have seen them die both of cold and heat. The Wolf River trees I have seen grow both in summer and winter, and they seem to be hardy and far better than the Walbridge, and I think it now stands at the head of all our fall or winter apples, as far as I have seen. During the summer of 1883, I visited Waupaca, Winnebago, Green Lake, Fond du Lac and Outagamie counties, and found but very little fruit except the Duchess, and one-fourth crop of Fameuse; all others seem to be barren. The apple tree peddlers have it all their own way up here, selling Russian Siberian and all kinds of wonderfully hardy trees for fifty cents a piece, and they seem to continue this practice on the ignorant public year after year, and the trees never live to tell any one why, or what kind they are. As far as Winnebago county is concerned, the orchards are in a very poor, neglected state all over. But the great fault of all Wisconsin nurserymen who have trees for sale, is not advertising them in the *Western Farmer*, at Madison, Wis. The public have no way to find out where they are, nor the prices they ask. Here in my district (8) are two or three nurseries, but not one advertises. This is all wrong. Wisconsin stock is fifty per cent. better than what is imported from other states. I have taken the statement of several hundred farmers who have planted apple trees for the last two years, and all came from Rochester, N. Y.; not one in fifty has one tree from our state. I have almost

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come to the conclusion that Barnum is right when he said the American people liked to be humbugged. In conclusion, on looking over the apple trees for 1883, it looked discouraging for new beginners, and we all lose faith in the work, as people will say, and tell me we are fools to bother with them; this is not a climate for fruit no way, so we won't try again. That is the sentiment of the public on the future apple raising.

In regard to small fruit, grape, strawberry, raspberry and currants, there is more planted all over, and especially strawberries, and around Oshkosh the strawberry was or has been almost overdone. In regard to the grape crop, it was a failure all over. The best paying was the Champion, next the Delaware. The Concord is the leading grape for all time to come. The Delaware is going to be the most profitable grape to plant in the future for Wisconsin. The Roger grape don't come up to my expectation. They all mildewed, and so did the Salem. The Creoling has been abused, kicked and cast away, and it still has and holds better qualities than the Roger grape. Raspberry is not half enough planted. Blackberry I would not recommend to the coming farmer to try to cultivate, as they will have to cover as graves. That farmers will not do, so plant raspberries, black or red. I visited John P. Roe's vineyard, near Oshkosh, in October, and found all his different vines strong but lacking grapes, except the old Concord was about half a crop.

I cannot give any information that will aid our Society, and as they know more than I can tell, and I cannot in a short paper of observation for a few counties, give much light. I have kept a daily record of the wind and rain, how leaf blight and mildew worked every day and night, how I caught the May beetle bugs, how I cultivated for 1883, from April 20th to October 16th. I could not give it, nor could I get it in a short report as this, and I do not know and I don't think it would throw much light on blight more than we have in our Society report.

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THIRD DISTRICT — GEORGE C. HILL.

COUNTIES — *Jefferson, Dodge, Columbia, and Fond du Lac.*— There is nothing very encouraging to report from this district, in regard to the condition and prospects of the apple orchards. From over-bearing in 1882, the severe winter following, and the cyclones of the past summer, the old orchards present a discouraging appearance.

The larger share of farmers have neglected to plant young trees, consequently are, or soon will be out of fruit. There are others who must and will have apples and with faith that, in the new varieties, something will yet be found which, with those already tested, will give a variety for all seasons, have been, and continue to plant.

Few apples were grown the past season. These were mostly Duchess, Fameuse and Golden Russet. But if there is any lack of interest in apple culture, there is none in small fruits. Strawberries, raspberries and blackberries are being planted on almost every farm. The home markets were well supplied with the finest of berries the past season, and an increasing number of farmers' families are enjoying these luxuries in their season.

The Crescent is the leading strawberry in the garden and in the market. Black Cap, Philadelphia and Hudson River Antwerp are the raspberries most largely cultivated. The Ancient Britton blackberry, so largely cultivated in the vicinity of Ripon, continues to be the variety preferred above all others. Judging from the fine appearance of the plantations, and the quantity and lusciousness of the fruit in market, it would seem as though the cultivation of this berry is brought near perfection.

OUR SOCIETY.

By B. S. HOXIE, Corresponding Secretary, Cooksville.

Such a thing as a society devoted to the interest of horticulture was not known eighty years ago, and indeed the word itself hardly had a distinctive meaning; so if every

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desert place has not budded and blossomed as the rose, let us take courage and be thankful that there is so much of beauty as I see before me to-day in fruit and flower.

The Wisconsin Horticultural Society was an outgrowth of the old Wisconsin Fruit Growers' Association, which was organized in 1853, but for some cause it did not meet with very good success, and held its last meeting in Whitewater, in 1860. Other interests of such magnitude at this period of history engrossed the attention of our entire nation and the peaceful pursuits of cultivating the flowers, or training the vine, were for the time being laid aside, for we hardly knew whether we were a nation to perpetuate our name as a republic or not. But the cloud was lifted, our nation was saved, but the homes were filled with sorrow.

Early in September, 1865, J. C. Plumb issued a call to organize a new society, which was effected at Janesville, September 29, 1865, and the following officers were elected: Hon. B. F. Hopkins, of Madison, president; J. C. Plumb, of Madison, secretary; F. C. Curtice, of Columbus, treasurer; and the executive committee were Geo. J. Kellogg, Janesville, and L. P. Chandler, of Dane. The first annual meeting was held in Madison, February 6, 1866, at which time the following were elected as officers: Dr. Joseph Hobbins, president; L. P. Chandler, vice-president; J. C. Plumb, secretary; F. C. Curtice, treasurer, with authority to appoint one vice-president from each county in the state. Our worthy friend, J. C. Plumb, drafted the first constitution, and has from that time up to the present, been an earnest, active, working member. This, then, was the beginning of our society, and I quote the organic act, "The object of this society shall be to improve the condition of horticultural adornment and landscape gardening, and for this purpose may be allowed to hold property not to exceed $5,000."

In 1879 this act was amended as follows: "It shall be the duty of the said society to aid in the formation and maintenance of county and local horticultural societies, to promote the horticultural interests of the state by holding meetings for discussion, by the collection and dissemination

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of valuable information in regard to the cultivation of fruits, flowers, and trees adapted to our soil and climate, and in every proper way to advance the fruit and tree-growing interest of our state."

The clause relating to property holding not exceeding $5,000 was not disturbed, nor indeed will it be necessary to do so for the next twenty years, unless funds accumulate in some unheard of way that now is all in the dark to us. But the fund of knowledge gained by its members and imparted to others, together with the satisfaction of aiding so important an object — this is without price.

All the world are our neighbors, and we are put in possession of facts gathered by every society of a similar character in this, and the old world. And, indeed, from the fact that the population of Wisconsin is made up of so many nationalities, we, as a society, have more privileges and more opportunities for observation and study than some of our sister states, for the emigrant brings with him whatever of tree, plant, fruit, or shrub, that delighted his eye or palate in the old country, and in many instances like the owner, the home of its adoption was more fruitful in all respects than the native one.

So, by experiment and experience we have acquired many fruits, shrubs and plants, that at first our climate and our northern latitude seemed to forbid. Twenty years ago it was supposed that the Clinton was about the only grape we could raise, and this was considered good enough by some, for it is a little better than the wild ones growing by the wayside.

But we have since learned that our hot and dry August and September, will fruit for us grapes almost as luscious as the famous suns of Italy can do. And I have eaten Concord grapes grown in Wisconsin which were nearer perfection for that variety than any grown elsewhere.

It is not my object or intention to laud our Society or any of its members, for among so many true and faithful workers I would not discriminate, but I can without boasting say that the Wisconsin Horticultural Society has taken a front

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rank among all the societies for the number and value of the papers read at our meetings, and for the scientific and practical truths which they have elucidated.

Possibly the patrons of this Society have made a mistake in its aims and objects, for none of them have accumulated vast wealth. But which are the best educators of the race — the homes adorned with fruit and flowers, or those garnished with the pipe and tobacco? Can we blame our sons for wanting to leave the farm and the home of bleakness and baldness, and the girls for not wanting to become farmers' wives?

Every home of comfort with *flowers, plants, vines* and *trees* is an educator of our race, and a standing monument of our nation's virtue and integrity. Not very many of our bad men and women were ever reared in such homes, for corruption and pollution is not indigenous to such an atmosphere as surrounds them. It was a happy thought in the mind of the mover of the resolution before congress, that we should observe the 30th day of May as a national holiday, and a part of the public exercises of the day was to be the decoration of the soldiers' graves with flowers. And many are the bright memories kept ever green by this token, not only of soldiers but of others on the other shore. For, however hardened the heart, flowers possess a softening and refining influence.

With all the experience and experimenting by members of our society, the losses and repetitions of failures, not one is lost to the enterprise or to the science of horticulture; a seeming loss is a possible success. The old plan of root grafting gave way to seedling roots with crown and tap, and now we have a few among us who say plant the iron clad seeds where you want the orchard *of the very best seed you can get.* We must not discard all the lessons of nature, and it may be yet found out that she will throw off the tap-root to an apple tree like the tail to a *tadpole* when it is not wanted.

The probabilities of our Society are among the possibilities, and if the average legislator is not up to the average citizen in point of culture, and withholds by his vote the sympathy

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and pittance asked for, to aid in a work of great importance to us as a state and a people, it is of no use to find fault, because if the "mountain will not come to us we must go to the mountain."

Among the possibilities of our Society is one to assist in organizing a village "Improvement Club" in every village in the state; and we will have "Tree Planters" day, when the young men and old will dig and plant the trees, and I am sure that the ladies will give all the aid necessary to the enterprise, by their presence and a picnic supper in the hall or on the lawn. Some of our villages already have such a club organized, and I sincerely hope the disease may be catching, until it shall prove to be a widespread and universal contagion. Have you in mind one or more villages with street-lined trees and well kept lawns? Make diligent inquiry and you will find that some generous-hearted, wholesouled man did the most by his means and his example, and it may be you will find that he was not worth a thousand dollars in the world; but he possesses a world of wealth nevertheless. The neighboring woods or the local nursery will most generally afford all the advantages for this work just for the digging, or at about cost price. But do not expect the nurseryman to do the greater part of the work in harvest time, for his harvest time is quite apt to be in the spring of the year.

Among the probabilities, is one that we shall at some future time have the means within our power to provide seeds, cions and cuttings, *pure* and true to name, or compel others to do so at such places as will accommodate the patrons for such articles. This is no uncertain problem, for if it was known that no seeds could be offered for sale in our state by the great commercial seed house, without first being tested by an authorized committee, the worthless trash that now finds a place in most every store would be consigned to the flames, or fed to pigs and poultry, and thousands of dollars saved every year to those who not only lose their money, but when too late, find they have lost their crop also.

Another one of the probabilities of our Society is that the

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ladies of Wisconsin will soon be among our best members. It is true that we have been favored, not only with their presence at all of our meetings, but the papers written by them are among the very best which grace the pages of our Transactions. And one lady writes me, why not give them the privilege of becoming life members and working members, as well as honorary members. And why not?

I have mentioned Decoration Day as a happy thought to commemorate the work of our fallen heroes and to make their memory sacred to every one in this republic. But there is left more to this service than to commemorate the service of the dead. For when the children gather the flowers, as I saw them do by scores this spring, it creates in them a love of the true and the beautiful while engaged in their pleasant task. Then, not only the Grand Army of the Republic but let every horticulturist in Wisconsin assist in this work.

The Flower Mission first started by that brave little school teacher in Massachusetts and since inaugurated by the benevolent ladies in our cities, is one of the enterprises that should call forth the admiration of all lovers of our race, and if we could only see the smile lighting up the wan face of the thousands of children and hospital patients who are the recipients of these favors, I am sure the donors would take new life and new courage in a work that is so silent and so potent in its influence for good. In fact, there are many ways in which we could make life more worthy of its possession than the present, and the world better for the boon to us given.

In conclusion to this short paper I wish to make the following quotation from Longfellow's "Poem of Flowers:"

"Everywhere about us they are glowing,
Some, like stars, to tell us spring is here,
Others, their blue eyes with tears o'erflowing,
Stand like Ruth amid the golden corn.

In all places, then, and in all seasons,
Flowers expand their bright and soul-like wings,
Teaching us, by most persuasive reasons,
How akin they are to human things.

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And with child-like, credulous affection,
We behold their tender buds expand;
Emblems of our own great resurrection,
Emblems of the bright and better land."

SOME THINGS I WOULD LIKE TO KNOW.

A. L. HATCH, Ithaca, Richland County.

We have about a hundred bearing trees of Haas apples we want to top-graft in the spring with some better and later keeping kind. On account of the severe cold weather we are now having, we shall not attempt it as we are sure they will not be in good condition to grow grafts and heal the necessary wounds. Some winters we might not be so certain whether trees would do to graft or not, and we might find some kinds where the line of demarkation between good condition and poor condition would be less clearly defined. Very naturally, then, we'd like to know how to distinguish this difference, and in what way injury by cold takes place. Perhaps there is always more or less bursting of the cells of the wood and sometimes actual seasoning of it by long continued dry spells. And here we are brought to consider the method of nature in restoring moisture to the tree during winter. Sometimes we have weeks together when the mercury does not rise to the thawing point of ice. During such times we often have hoar frosts that cover the trees with glittering gems. Can there be any actual restoration of moisture to the tree during such time?

Some have strenuously maintained that when we have deep snows and severe cold, fruit trees may be saved from winter-killing by packing the snow about the roots to allow the ground to freeze.

These persons believe in a winter "flow of sap" during warm days. To us the trouble seems for want of it. Still we would like to know more about it.

Last fall we whitewashed several hundred of our fruit trees in the orchard. We would have done so to all but for want of time, and would have been glad if we could have done it last

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spring. Still we think it will help to reflect the sunshine from the trunks during winter and if there is any virtue in that we shall have it. For several years we have banked our trees in the fall to prevent mice from girdling them during winter. We had also fenced the orchards to keep the rabbits out. The fence is now getting old and so we thought perhaps we could make the white wash protect the trees from rabbits and mice by putting some paris green in it. On the smooth barked trees we wish we had applied it thicker as it seems to have mostly fallen off. On the rough bark it adheres better. There was so much moss and fungi on many trees we thought we would also add some sulphur, but found great difficulty in getting the sulphur to mix with the lime — most of it would float on the surface. We have also a hope that the whitewash will lessen fire-blight. We do not remember to have ever seen a whitewashed tree fire-blight, and Mr. C. G. Patten, nurseryman, of Charles City, Iowa, says he has not. Now we would like to understand this better.

We have grafted several kinds on bearing apple trees, but of all kinds we think Wealthy is the model for the top, but we want a late keeper. We have some good Ben Davis and Pewaukee, but both suffered with cold the first winter after grafting. Contrary to what many suppose, we found the first winter so trying to the top graft that a very hardy sort is desirable. Now we would like to top graft a lot of trees with Golden Russet. Still the Golden Russet branches so much and is so liable to blight that we would expect trouble with it. Possibly, if we had a mild winter following the season of grafting, we might carry it through all right, but we would expect it to grow so rankly we would fear blight, and if we escaped that we might get a top miserably poor in shape. Yet we want more Golden Russet because they are such fine apples here on our light clay soil where Fameuse and Walbridge are so scabby and poor. On account of dissimilarity in grain and hardness, Hyslop and several other crabs are poor stocks for top grafting. Haas apple is excellent for a stock. Now shall we risk Golden

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Russet on them or had we best use something else? If so what shall it be?

The scabbing of apples we referred to we presume to be a fungus of some sort. It appears in black circular spots. Sometimes it can be scraped clear from the skin of the apple, but generally checks its growth and causes rotting. Walbridge, Fall Wine Sop and Fameuse, on light soils were badly damaged last season, while on richer soils they were quite good. Duchess, Tetofsky, Pewaukee and Golden Russett were nice as could be, right along beside the scabby Fameuse and Walbridge.

So we conclude this scab is worse on some soils than others and that some kinds are free from it everywhere. If it is fungus we'd like to know it, and if we may look for relief from its attacks by the use of sulphur, by good cultivation, or by using fertilizers about the trees. We'd like to know if the rust and dark fungus we saw on our apple tree leaves last summer injured their vitality or the fruit prospects for next year, and if it will then appear worse than ever. Perhaps next season may be one of those hot, dry ones we most generally complain of, but which may bless us in untold measure by lessening the crop of these fungi so abundant in wet seasons.

If we have a hot, dry season, perhaps we may have another good crop of grapes next year. Then, perhaps, we may forget the loss, last season, of all Roger's hybrids and half our Concords. "How did we lose them?" That is what we'd like to know. We suppose we had that parasitic fungus *Peronospora*; we certainly had the mildewed appearance on the leaves. Whether this caused the foliage to fall or the grapes to rot before maturing we don't know. Full-grown grapes, while green, were affected internally with brown particles through the flesh and refused to ripen, although adhering to the stem and often turning dark colored.

There are some botanical classes of grapes not affected by the root gall louse, Phylloxera: The Labrusca class, to which belong Concord and Worden, is one not hurt by them. Riparia and Cordifolia, including Janesville and Clinton are very much affected by Phylloxera. Vines containing foreign

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blood like the Roger's hybrids are also affected. Now, if Ohio loses a thousand acres of vineyard a year from this cause, and if French vineyards are being renewed with vines made by grafting on our American *Phylloxera*-resisting roots, isn't it time we ceased to plant such vines as must sooner or later yield to their ravages? What should we plant? Who can tell?

Last October, fruit sold very low in this part of Wisconsin. Fall apples were not easily sold and many good winter apples were sold at very low prices. It is always so. The multitude of small producers in reach of our village, who bring in a few bushels at a time in poor order for keeping, demoralize the market and do not furnish stability in quantity, quality, or variety from year to year. After frosts along in November apples were ready sale at 75 cents, and in December they were worth $1.25 per bushel. Many of the apples sold in October, if carefully handled, might have been carried along for these better prices. With proper storage this would seem to be an opportunity for the painstaking orchardist to save money if any one can. If fruit could be kept quite cold in cold cellars, and if apple-growers all had good cellars, it would seem a sensible plan to hold the fruit until the usual crowding of home markets is past. When cool nights and frosts come, cellars can be cooled down to keep fruit by opening them at night and closing in the day-time. Probably a temperature of 39° above zero is best, as at that temperature water is the most dense. But how can this low temperature be secured in September? If there is money in saving fruit, and if cold will do it, then we need this cold storage. Our crates of berries and our baskets of grapes need cooling often over night in a cold cellar or store-room before being sent to market. To keep ice for this purpose all through summer to use in July, August and September, is hardly practicable. How shall we do it then?

We are now having severe, cold weather. If we could only store up some of this frigid temperature and save it to use next summer and fall it would be useful then.

At twenty-five feet depth the annual variation of the tem-

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perature of the earth is said to be only about two degrees, being coldest in June. The daily changes of temperature do not reach deeper than about three and one-half feet. If a cellar was protected above with about forty inches of non-conducting material, it would be below the effect of daily changes, and, without being over ten feet deep, would be subject to but slight changes of temperature during summer. If, in the winter it was thrown open and allowed to freeze and have its walls, ceiling and floor reduced to the lowest temperature the winter could afford, and then closed while intensely cold, it seems to us this would form a store house of frost that would linger lovingly in its seclusion for us to use during the heated term. Subterranean pipes, properly arranged, could bring this coolness to our dwellings to be used in small parcels as our comfort required. As ice at the freezing point absorbs a large amount of latent heat, and as the cellar might be reduced to a much lower temperature almost any winter, it seems to us this cold would endure a long time if only well protected. Once made and arranged, we should have an automatic ice-house, and when northern "blizzards" came down upon us with all their keenness, making our very teeth chatter and our bones ache, we'd open our cellar and bid old Boreas "walk in!" And why not? We have long dreaded severe winters as blasting our hopes and wasting our fortunes. Now let us turn the scales and make these cold waves serve us a good purpose, and while the stock farmer rejoices over his new-fangled silo, the dairyman over his self-acting creamer, the beekeeper over his honey extractor, and the general farmer over his improved tools and machines, let us rejoice that for once, at least, we can make old winter do our bidding, and make happy, if possible, that hopeful, courageous class, known as Wisconsin fruit growers.

THE ORCHARD LESSONS OF THE LAST YEAR.

By N. N. PALMER, Brodhead.

The orchard lessons of the last year make it plain that it is very uncertain and unsatisfactory to set in orchards the old standard varieties of trees, grown in more favorable lo-

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calities, especially of the long keeping apples. We must look to the Russians and seedlings grown in the northwest, from seed of our most hardy kinds, for trees to stand our varied climate, and until we get them we must keep on setting the best we have to take the place of those that are killed, so we may have plenty of fruit in favorable years at least. It will be pretty safe to set any kind of trees that we can find that were grown in this state and come through the last season without injury. I think we have a fair prospect for a good crop of apples another year. It will not surprise me much if we hear the men who are complaining now that we can't raise apples in this country, saying it does not pay to grow them. In order to profit by the last year's lessons it is first necessary to try and find out the full cause of the failure of fruit, and the destruction of trees. If it were not for the fact that orchards in the central part of the state bore much more fruit and of better quality than those of the southern part, and the so-called "iron clads," did not do as well as some others that were considered less hardy, we should say at once that the severe winter was the only cause; but from the above facts and some observations I have made in other years, I am of the opinion that an unfavorable spring is as damaging to fruit trees as the coldest winter.

Could we have had a favorable spring, I think we should have had a fair crop of apples; but with a bad spring, following the coldest winter I ever knew, the result was what we might have expected — a failure. I think all will agree with me, that the last year has been the most disastrous to the orchardist that has ever been known since the state was settled; and perhaps if we had any way of knowing, it was the worst for five hundred years. So it is not best to be discouraged, but hope that we have seen the worst year that is to come for the next five hundred years.

I suppose every one who has given the subject much thought has some theory of the cause of the failure, whether right or wrong. My theory is, that there are nearly as many trees killed by the spring, as by the cold of winter, and that

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our fruit failures come more from the spring than the winter. Especially was this the case last spring. I think the damage is done by the cold winds, after the leaves and blossoms make their appearance, when we generally think the danger is mostly past. The first time my attention was turned in this direction was several years since, when my Haas trees blossomed very full, and looked as though we should have a fine crop of apples from them. About that time we had several days of cold east winds; the trees soon began to look as though they were dying, and they did not recover all summer. Last spring there were blossoms enough, especially on Perry Russet and Talman Sweet, but the apples did not grow, neither did the trees much.

Nearly all my orchard trees show more or less injury. The Donathan was killed outright. Saxton nearly all killed (not much less). The Gilpin, Rawles, Jannett and Yellow Bellflower were injured more than most others. The two varieties that came through the season in perfect health, were the Sops of Wine and Roman Stem, neither of which have been classed as iron clads. The Sops of Wine is the only variety that bore a full crop of fine, smooth apples, and bore heavily last year. In the same row and next to them is the Duchess. There were but few apples on these trees, and it was hard to find a perfect one among them. The Roman Stem was set in 1850. They bore a good crop last year. They set reasonably full last spring, and I think only for the fact of the wet summer, that made the apples scabby, and the codling moth, we should have had an average crop. As it was we got little more than a barrel from six trees, more than one-fourth of the apples we had at gathering time from our six hundred trees. They are one of the best eating apples that I grow, maturing about the time the Fameuse are gone. Now I do not claim that the Sops of Wine or Roman Stem are as hardy as the Duchess, but it was some peculiarity of the season that was unfavorable to the Duchess and most orchard trees.

The very cold winter undoubtedly gave them a severe shock. Then, at a critical time in the spring, just as they

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were putting out leaves and blossoms, we had extremely unfavorable weather and continued cold winds. I think trees are as often injured at this time as by the coldest winters; and here, I think, is the cause of the Sops of Wine, Roman Stem and the trees of the central part of the state producing so much better this year. Either they had not got far enough along, or else had got past the most tender stage. Perhaps, if our trees had been mulched heavily before the snow and ground thawed last spring, it would have kept them back and saved us a fair crop of apples. I think they would be safe every spring if we would keep them back, and the mulching would do them good all summer. Right here, allow me to say, I have a theory, although I have never tried it, that if we could enclose our Miner plum trees for a while, about the time they blossom, during all cold winds, they would not blight, and we could raise full crops of delicious plums. I would suggest to those who have tents for camping out, to try it next spring. I will not use up any more of your valuable time, but leave the subject to more able heads.

THE DISTRIBUTION OF SEEDS BY NATURE.

By MRS. C. A. WILLARD, West Depere.

As we observe the bewildering variety of plants and flowers, and as we often are surprised at the appearance of some new variety, the query naturally arises, how and by what means does this wonderful distribution occur?

It is the purpose of this paper to suggest some of the methods nature employs, and hope at the same time that these suggestions may be useful in a practical way, in discovering how it may be possible to prevent the distribution of injurious and troublesome seeds, the presence of which in growing crops are not only a surprise but a perplexing annoyance and loss. The seeds of trees and plants are of almost as great a variety of shapes and kinds as the flowers themselves.

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As seeds are not, like animals, endowed with locomotive organs, they must depend upon the elements to transport them; but still they possess many advantages over animals as regards the power of dispersal, since they are all propagated by seeds, or spores, which are hardier than the eggs of even insects, and retain their vitality for a much longer time. Seeds may be dormant for many years, and then vegetate, while they endure extremes of heat, of cold, of drought, of moisture, which would almost always be fatal to animals.

Seeds have a variety of appendages attached to them. The ash and maple have wings, catalpa seeds have a fringe-like wing or tuft at each end. The seeds of pine are winged at one end; other seeds have cottony or feathery tails, as the thistle, anemoni and clematis. All these tufts and wings are contrivances for rendering such seeds buoyant, so that when shed they may be dispersed by the wind.

Many are so minute, as to be visible to the eye only in the form of smoke, and are so numerous as to be almost uncountable. This is specially the case with fungi, mosses, lichens, and some species of ferns. The spores of fungi are so minute as to require a microscope to see them, and so numerous that Fries says that he counted 10,000,000 in a single specimen, so that when plants have seeds so minute and so numerous, it is not so much of a wonder that they are so generally distributed.

We can easily imagine the wind capable of carrying these minute spores to immense distances over land and ocean. Many plants not possessing small seeds are carried off bodily by the wind to distant localities. There is a plant called the wind witch, that grows on the steppes or elevated plains of central Russia; a poor thistle plant, says Schlieden; it divides its strength in the formation of numerous dry, slender shoots, which spread out on all sides and are entangled with one another. The domes which it forms upon the dry turf are often three feet high, and sometimes ten to fifteen in circumference, arched over with naked, delicate, thin branches.

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In the autumn the stem of the plant rots off, and the globe of branches dries up into a ball light as a feather which is driven through the air by the autumnal winds over the steppe. Numbers of such balls often fly at once over the plain with such rapidity that no horseman can catch them, now hopping with short, quick springs along the ground, now whirling in great circles around each other, rolling onward in a spirit-like dance, over the turf, now caught by an eddy, rising suddenly a hundred feet in the air. Often one wind witch hooks on to another, twenty more join company and the whole gigantic, yet airy mass rolls away before the strong east wind. Another plant, called the "Rose of Jericho," has a somewhat similar method of dissemination. Prof. Lindley says of it, at the end of its life, and in consequence of drought, its texture becomes almost woody, its branches curve up into a sort of a ball, the valves of its pods are closed and the plant holds to the soil by nothing but a root without fibers. In this state the wind always so powerful on plains of sand, tears up the dry ball and rolls it upon the desert. If in the course of its violent transmission the ball is thrown upon a pool of water, the humidity is promptly absorbed by the woody tissue, the branches unfold, and the seed vessels open, the seeds, which if they had been dropped upon the dry sand, would never have germinated, sow themselves naturally in the moist soil where they are sure to be developed and the young plants will be certain of nourishment.

The Lelaginella, one of Lycopodiums, and a native of South America, has the same habit, for when the ground where it grows becomes parched and dried up, it curls itself up in a ball, loosens itself from the earth, and is then whirled along over the ground by the wind. When it finds a moist place suitable for its growth, it uncurls itself, takes root, and flourishes until its new home is dried up, when it betakes itself in the same manner to a new locality.

We have plants in our own country that have much the same habit. Mr. J. E. Todd, of Beloit, made an extended trip in Dakota last summer. He says of the Proralea Ar-

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gophylla, that it was a daily companion. So abundant is it, that it gives large areas of the prairie a silvery whiteness. In the latter part of August a hot, south-west wind blew for several days, which so blocked the roads in places with the loose "tops" or stems of this plant, as to considerably retard a team in traveling, reminding one of similar experience with the tumble weed and tickle grass near cultivated fields after a frost. He also says that the fashion followed by these utterly diverse plants, is beautifully adapted for scattering seed over the prairies.

Hence the violent hurricanes of the tropics, and the tornados and cyclones of this country would contribute largely to a dispersion of seeds and plants which otherwise would be but slightly distributed.

We have seen that as a general thing, only light seeds, or those with a downy appendage (or sailors, as the children call them), are capable of being distributed by the wind. The waves also can assist materially in the distribution of seeds, but they are of an entirely different character from those distributed by wind. This must necessarily be the case, for those capable of resisting the action of sea water for a long time, must be inclosed in hard shells.

The Gulf Stream, that river of the ocean, is of great use in this work. By its means seeds of various plants of the West Indies and tropical America are annually thrown upon the shores of Ireland, Scotland, Norway, and even as far north as Spitzbergen.

If the climate were only suitable, there is no doubt but that many of the seeds would be capable of germinating. Logs of wood and bodies of Indians, which had been conveyed by ocean currents from the West Indies, have been cast on the shores of the Azores and Madeira Islands. The soap-berry tree of the West Indies, was raised from a seed found on the shore of one of the Bermuda Islands.

The coral islands of the Pacific ocean have been planted with the cocoa-nut palm by ocean currents. Growing as it does, in close proximity to the shore, and thriving in salt and salt water, the nuts could be easily carried out on the ocean

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by the tide, and then be drifted miles away from the place of growth.

Mr. Darwin made a few experiments to see how far seeds could resist the action of sea water. Out of eighty-seven kinds of seeds, sixty-four germinated, after an immersion of twenty-eight days, and a few survived an immersion in salt water of one hundred and thirty-seven days.

Now, as oceanic currents vary from thirty to sixty miles a day, such plants, under the most favorable circumstances, might be carried 5,000 miles. But even half of this is ample to enable them to reach any oceanic island, and before they were completely water-logged they might be driven along at a much greater rate of speed by the wind.

Darwin came to the conclusion that the seeds of one-tenth of the plants of a flora, after being dried, could be floated across a space of sea 900 miles wide, and would then, if driven to a favorable locality, be capable of germination.

Wallace says, rafts of islands are sometimes seen drifting a hundred miles from the mouth of the Ganges, with living trees growing on them. The Amazon, Mississippi, Columbia, Congo, and most great rivers, produce similar rafts. When we were at Sawyer's Bay, Door county, several years ago, while walking at the water's edge, on the Green Bay shore of a little peninsula between Sawyer's Bay and Green Bay, we found the beautiful blue lobelia that is used so much for hanging baskets, growing in crevices so small in the rocks that you could scarcely insert a knife blade. I found several specimens in overhanging rocks with the roots growing upwards, and the plants and blossoms hanging downwards. Now, I cannot conceive of any possible way that these seeds could get there except they were carried and washed up by the waves, as many times we have seen the waves dash far beyond they place where the were found.

Near the stone quarry, at a point about opposite of what is now called Idlewild, on the same peninsula, I found a thrifty specimen of Allegany vine, or mountain fringe, in bloom.

The name of mountain fringe seems exceedingly appro-

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priate as this specimen was growing on a depth of not more than two inches of soil above the rocks. I should think that in this case the soil, as well as the seeds, had been washed up by the waves, as no doubt but only a few years have elapsed since stone was taken from that identical place.

Here I would suggest that it is possible for the seeds of troublesome weeds and plants to be distributed by means of rainfall inducing overflows and washings from the places where these plants are allowed to grow.

The banks of rivers and streams always show a variety of growth that clearly indicate that quantities of seeds have been floated down with the water, until lodged in soil adpated to their germination.

Birds can hardly fail to be highly effective agents in the transportation of seeds. Many fruits having a seed incased in a hard shell are surrounded by a juicy pulp. These are eaten by birds which assimilate the pulp, cast the stones in their excrement.

The parasitic mistletoe has no way of being disseminated but by birds, these swallowing the berries, use the pulp, and if the stone happens to be cast upon branches of trees suitable for their growth, they will take root and flourish.

Several years ago we saw a very curious instance of this parasite growth at Sawyer's Bay. It was of one kind of evergreen as a parasite upon an evergreen tree on an entirely different variety. The parasite had attained a height of three or four feet and at the place where the roots would ordinarily be, the branch had swollen so as to form a knob as large as one's head.

Passenger pigeons have been killed in the neighborhood of New York with their crops still full of rice, collected by them in the rice fields of Georgia and North Carolina. After a bird has found and devoured a large supply of food, it is asserted that all the grains do not pass into the gizard for twelve or even eighteen hours. A bird in this interval might easily be blown to the distance of from 300 to 500 miles, and hawks are known to be on the lookout for tired

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birds, and the contents of their torn crops might easily get scattered.

Birds also assist in the distribution of seeds by means of the dirt and dried mud adhering to their legs and feet. Darwin records an instance when Prof. Newton sent him a leg of a red legged partridge which had been wounded and could not fly, the ball of earth adhering to it, weighing six and a half ounces. The earth had been kept three years, but when broken, watered and placed under a bell glass no less than eighty-two plants sprang from it.

Wading birds, which frequent the muddy edges of ponds, if suddenly flushed, would be most likely to have muddy feet. Birds of this order wander more than any other.

Darwin tried an interesting experiment with the mud upon the edge of a little pond. He took three tablespoonfuls from beneath the water at different points. When this mud was dried it weighed six and three-quarter ounces. He kept it covered up for six months, pulling up and counting each plant as it grew. The plants were of various kinds, and were altogether 537 in number. Fish also eat seeds, and birds devour the fish. Animals also perform their part in the work of distribution. Many seeds are furnished with hooks and prickles, which enable them to cling to the hair and wool of animals. We all know by our own experience how difficult it is to pick out from our clothing some of these clinging seeds. There is still another method of transport in which man plays an important part in the work. Fresh surfaces of soil or rock, such as are presented by railway cuttings and embankments, often produce plants strange to the locality; seeds are lodged on the platform of the cars, are carried along by the wind created by the passing trains, and in many other ways are distributed along the track.

For instance, the euphorbia marginata, a species of milkweed which is a native of Kansas, is slowly but surely working its way towards the east by means of the railroads.

Florists keep men out searching for plants both in Alpine and tropical countries, which they cultivate, improve, and bring out as novelties.

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Wallace says that in Tasmania, whenever the virgin forest is cleared in that island, there invariably comes up a thick crop of a plant known as fire-weed, a species of senecia. It never grows except where the fire has gone over the ground, and is unknown except in such places. A correspondent of his says that in the autumn he went back about thirty-five miles through a dense forest, along a track marked by some prospectors the year before, and on the spot where they had camped and the fire had burned the fallen logs, there was a fine crop of fire-weed. All around, for many miles, there was a forest of the largest trees, and dense scrub. Here we have a case in which burnt soil and ashes favor the germination of a particular plant, whose seeds are easily carried by the wind, and it is not difficult to see how this peculiarity might favor the dispersal of the species for enormous distances.

In our own state, at Peshtigo and other places where forests have been burnt down, there comes up the next season a dense crop of fire-weed; possibly it is not exactly the same variety, but no doubt it belongs to the same species. Thus we have seen how plants are naturally distributed by means of the air, the water, birds, fishes, animals, and lastly man, each performing their several offices, and each liable to contribute in various ways to the distribution of desirable and undesirable seeds.

A more perfect knowledge of nature's methods in the distribution of seeds may enable cultivators to anticipate the possibility of being overrun with noxious and unprofitable growths, and protect their lands against such a result.

VINES FOR OUR HOMES.

By MRS. D. HUNTLEY, Appleton.

The climbing vines are nature's drapery, and with them she covers beauty and deformity alike with a mantle of loveliness. Nothing that art can produce can equal their elegant grace. "As the lilies surpass in beauty, the robes of royalty, so these tender climbers surpass all the decorator's skill."

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Every tree and shrub of the forest takes on new beauty when entwined and caressed by the clinging tendrils of the Ivy or the Clematis, and the vine-clad trees and vine-covered doorway become a picture in the landscape which we never forget.

It is often said, "You can not have something for nothing," but we come very near proving the saying false when we deal with nature. If we plant the tiny seed, or set the roots of vines by window or doorway, by rustic arbor or trellis, and then do just what all have ever done who have accomplished anything good or beautiful, wait, wait and see what nature will do for you; the vines will grow while you are waiting, and soon, without money and without price, your home — whether lofty or lowly — will be adorned with nature's finest drapery, and neither rain nor sunshine will ever deface it.

The easiest way to secure vines for the home is to plant the hard-wooded, hardy climbers. They will live many years with little care, and become more beautiful with increasing age. The best of this class is the Ampolopsis Quinquefolia, now everywhere known as the American Ivy. It grows so easily and rapidly that there is danger that we shall fail to appreciate its worth. The late lamented Mr. Vick said: "This vine has done more to beautify rural villages than any fifty plants in existence." It is highly prized in Europe, where it is largely used in preference to the English Ivy. The latter often becomes rusty and bare, while the American Ivy has immense foliage, and needs no special care, unless it should be necessary to cut back its rampant growth. We often see this beautiful vine adorning city homes, but many of the people of the country have not yet learned how attractive their dwellings could be made by the Ivy, which grows wild on their own farms.

The climbing Bitter Sweet, Celastrus Scandens, is a hardy vine, and in many places can be found in the forest, but it is not so often used for the porch and piazza as the Ivy. We know one city home where the Bitter Sweet was saved when the forest was cleared for the dwelling; it has become

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an immense vine, of great beauty. Its foliage is handsome, and its berries of scarlet and orange are very showy and much prized for winter decoration.

Another hardy vine is the Moonseed, so-called from its crescent-shaped seed. This, too, grows wild in many places in our state. It is a slow grower, but in time becomes large and handsome, and in autumn has clusters of purple berries.

The wild Clematis, which is very abundant in the woods seems quite at home when transplanted to our gardens. It is not so hardy as either of the other vines mentioned, and will sometimes winter-kill nearly to the ground, but its growth is so rapid, it soon covers any support with foliage and in summer is a mass of sweet white flowers that are very lovely. There are many varieties of Clematis, both will and cultivated, that are very desirable. That known as "Travellers Joy" we have had several years in the garden, and in the most exposed situations the roots survived our severest winters. No objection can be made to this vine on account of injury to buildings. If better known it would be greatly prized.

The Matrimony vine, with its willow-like streamers, is a pretty thing in appropriate places, and in some localities is very abundant. We have always admired it, at a distance, for it has persistently resisted all our efforts to make it grow in the garden.

All these can be easily obtained, are very ornamental and, best of all, when once planted, you will always have them. They can be trained upon the buildings, on a rustic arbor or cross in the door yards, and, in any of these places, give pleasure whenever run. There are many other good climbers which are more rare, such as "Dutchman's Pipe," "Trumpet Creeper," "Clianthus," and many others which if one has room and time for their culture, will be found very satisfactory.

Then there is a large number of herbaceous perennial climbers which die to the root in winter and every spring come up again to gladden us with new beauty, and long before the end of summer give a wonderful growth of foliage

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and bloom. Of these the "Cinnamon vine," "Chrimyam," and "Madeira vine" are most common. The roots of the latter must be taken up before the ground freezes. Among this class of plants there is a vine with halberd-shaped leaves and large, double, rose colored flowers, which is sometimes called the "rose creeper;" it grows wild in many places and is sometimes considered troublesome, but with good culture it can be kept from spreading, and when well-trained it makes a pretty screen. Another wild vine with very similar foliage has pure white flowers much like the morning glory. This was one of the vines that in our childhood we called the white creeper. Then it was our admiration; we remember one eccentric old lady who trained it through her window, and around her tall old fashioned clock, but we had never seen it in the west, till one day last summer when returning from the home of our worthy President we passed the "white creeper" of childhood's memory in the woods near the Oneida settlement. With tenderest care we took it in our garden but all our efforts to make it live were unavailing. Sometime, however, we expect to see it growing in all its old time beauty.

Besides the perennial vines we have a large number of annual climbers which all can have, even in new or transient homes; wherever spring finds us, the little packet of seeds may be planted, and long before the summer is gone, we have a profusion of flowering vines. First among them are the dear old Morning Glories. There never was, nay, never will be any vine lovelier than these glories of the morning. Then the Nosturtium with its golden and scarlet bloom, spicy stems, and curious seeds; and the canary vine with its little bird like flowers perched about among the pretty foliage; and the sweet peas, too, with their delightful fragrance. O who could be content without these reminders of the old home gardens. Then we have the newer vines some of them of surpassing loveliness, and they must have a place in the conservatory or veranda. Passion vines, Cobia Scandins, Star Ipoima, the delicate, Cypress vine and the golden Thunbergia are all easily grown, but for constant

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growth and beauty there is nothing quite equal to the English Ivy and the wax vine, Hoya Carnosa. An old plant of the latter has been in bloom all winter, sometimes bearing thirty clusters of its waxy flowers at one time. Both these vines need much time to perfect their beauty, and when there is any danger of frost the quicker growing vines are much more satisfactory.

Of this class the German ivies are best. It is said by some writers that these are not ivies, but they have so long borne the name, we think them entitled to it by possession.

The variegated German Ivy, "Senecio Scandens" is much like the English Ivy in appearance, has thick glossy leaves and is a rapid grower. The common German Ivy is the best vine for the wall in partially shaded situations that we have ever seen. It will grow many yards in length and covers a large space in a few weeks. A pretty way to grow this ivy is to train it around an oval frame of wire or rattan of any size you wish and, when well covered with foliage, take vase and frame to the parlor to decorate a picture.

For hanging baskets a well grown ivy is very handsome; so also is the Maurandia and if the three colors, white, pink and purple are grown together the effect is very pleasing.

Another excellent vine for baskets and a comparatively new one is Pilogyne Suavis. This is a rapid grower. The leaves and tendrils resembling the grape; flowers are small and cream colored. But of all the vines the Smilax is the daintiest thing for all decorating purposes. Its glossy leaves add grace to everything it touches.

The Smilax is prettiest, grown in some ornamental pot or box that can be easily moved. Each vine should be trained on a separate string. When needed for decoration part can be used without injuring the whole. When the vine is well grown take it to the parlor to adorn a picture or place it at the window at the edge of a lace curtain, taking care not to keep it from the sunshine.

Another exquisite little vine is the climbing fern, Lygodium Scandens. This is not so common as the Smilax, but wherever grown it is thought to be fully its equal. Its foliage

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is airy and graceful and when cut, will remain fresh a long time. It is best grown in the manner described for Smilax.

Besides the climbers there are a large number of trailing vines which are indespensable for basket or boxes, or in any place where a drapery of foliage is needed. Of all this useful class of plants, if we could have but one, it should be the Kenilworth Ivy, which will grow anywhere, requires but little earth, and will cover brackets and baskets with a curtain of green. A tiny part of this pretty trailer upon a bracket is a fine ornament for any room.

The Tradiscantias, also, are among the best of trailing plants; they will grow beautifully where there is not a bit of sunshine. There are four varieties of this plant, often called the "Wandering Jew." The newest is the pink, white and green; this is a wonderfully attractive thing, and in a basket with the other varieties would be charming. Some of the Sedams are good for this purpose.

Then we have the garden Moneywort, which will grow yards in one summer, and the old ground ivy which some think a pest, but we like it for its old-time, suggestive name "Up the Hill to Happiness," by which our grandmothers called it.

But time would fail to tell of all the lovely things which we find everywhere around us in boundless profusion. We pause in wonder when we contemplate the beauties of the floral world, and can only exclaim,

O! who that has an eye to see,
A heart to feel, a tongue to bless,
Can ever undelighted be,
With nature's magic loveliness.

How can we live amid so much transcendent beauty, and fail to appropriate to our use and pleasure, the countless treasures of nature's realm.

We meet each year in the sweet month

"When lilac trees from nodding plumes,
Have spoken incense like perfumes."

We exchange kind greetings, talk of our failures and rejoice over our successes, and with a higher appreciation of the glory of the summer we say:

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"No discord mars the low, sweet tune
To which is set this day of June,
A poem from the heart of God,
Wrote out on sky, and tree, and sod,
And we who love to work away
The long hours of the happy day,
Have talked with nature, and have heard
Her voice in brook, and breeze, and bird.

O, such strange things as she has told,
The secret thing of sunshine's gold,
The mystery of the tasseled corn,
How roses break apart at morn!
This happy day we have been near
To nature's heart, and felt it beat,
So close that we could feel and hear
Her loving thoughts and fancies sweet."

There is a blessing and an inspiration in a time like this. We should find a lesson in the words of wisdom we have heard, in every tree, and leaf and flower we have seen; in the beautiful gardens and lovely homes of this delightful city, and in the generous hospitality of her cultured people. Yes, we will long remember the pleasures of this glad day, and return home to our daily work, resolved to make the world not only better, but more beautiful because we have lived in it.

EXPERIENCE WITH APPLES.

By ANDREW ANDERSON, Neenah.

Without attempting a history of our apples, since others have done that more ably than I could, I should like to record my orchard experience for a number of years.

At the horticultural meeting held in connection with the state fair, in 1867, I saw for the first time what could be done with apples in this state, and determined to profi lesson I had learned. So in 1868, I planted 300 apple trees, seventy-five plum trees and a considerable number of raspberries, blackberries, grapes and currants. Of course I left the selection of varieties to the agents who supplied me. They knew just what was wanted. Result: In the spring

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of 1876, *one tree* out of nearly 400 was living — a monument to the memory of the Hon. Tree Peddler!

Meantime I had attended the Horticultural conventions of 1873–5, and when, as I said, the spring of 1876 found me exactly where I began, I took counsel of the State Horticultural Society, and planted Duchess and Fameuse, bought of Brainard Bros., of Oshkosh. Up to this time (Feb. 1, 1883), not one tree has died from any cause. Since these were set out I have added several hundred trees from the same firm, my list including Duchess, Fameuse, Pewaukee, Utter, Walbridge, Haas, Tetofsky, Plumb's Cider, Red Astrachan, Wealthy, Alexander, Ben Davis and Price's Sweet. In the winter of 1880–1, the last two varieties killed down to the root.

My method of treating the orchard is as follows: About the first of November I take particular pains to see that the ground is well set against the stem of the tree, so that no water can penetrate. A bank say four to six inches is then raised round the tree so that sleet and water shall not work round or freeze to the tree. It will be noticed that in the wet fall weather the soil works loose from the tree, so that this precaution is necessary to prevent the destruction of the roots by the freezing of water in contact with them. This is my fall treatment. My winter treatment consists in placing the snow tightly about the trees after the first fall. By taking this precaution, I have never had a tree gnawed by mice or rabbits yet.

In the spring I remove the dirt from the trees to the level of the surrounding ground, after which I break the soil with a potato fork, for a distance of two to six feet about the tree. In May, after one or two good rains, I mulch the trees with wet straw or marsh hay, covering the mulch with two to four inches of soil. This remains moist till I remove it in the early part of September.

I do not agree with many of our horticulturists, who believe in allowing the mulch to remain longer. Leaving it through September and October prevents the trees from getting the full benefit of the fall rains, which they need. In 1879, I tried leaving the mulch about one tree, and on the

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20th of October I found the ground about it as hard and dry as in August. Had I not watered it, this tree would have died from drought, as many a young tree has done. After removing the mulch, I dig about the tree as in the spring, so that the tree shall receive the full benefit of the rains. I have seen hundreds of trees in grass die from thirst.

After washing the trees with soap suds in the spring, I tie paper about the trunk. When this is removed in October, the bark is as smooth as in the spring. It is true that worms will gather under the paper, but they are easily destroyed.

I have found that fall or spring pruning will not do for the Fameuse, on account of bleeding, which could not be remedied. This variety is now always pruned in June. Other varieties we can prune in fall or spring, but the safest time with these is June. I should follow this rule in future; but I have now adopted the practice of pinching back the buds which I do not want to grow, and so have little use for the ax, saw and knife.

Beside the young orchard I have an old one, set out in 1861. This receives the same treatment as the other. One thing about our old trees which is shamefully neglected, is moss. This green moss has no business on a tree, and it is easily removed when wet. An hour's work on a wet day, will clean a large tree, and if the trees are properly washed when young it will never be very troublesome.

I have been watching, examining and taking notes in hopes of discovering the secret of blight, if it be a secret. During the seasons of 1880, '81 and '82, a daily record of my trees was kept, with a view to learning which were most subject to the disease. In 1879 I had no blight, nor, so far as I could see, was a single limb attacked in 1880 or 1881. On the night of July 20th, 1882, one Fameuse tree was stricken, and one or two branches withered by nine o'clock the next morning. Some twenty other trees of the same variety escaped.

This tree had been stirred all around for six or eight feet, almost every other day, from May 20 to August 1. One Tetofsky, planted in 1879, was blighted. A Tallman Sweet, planted in 1859, a Red Astrachan, planted in 1868, and one limb of a Duchess, planted in 1880, blighted the same night.

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These were the only trees out of one hundred and seventy. These four trees had also been worked about more than the others, and had been stirred about every forty-eight hours, since May 20. They had more top than the others. I have found in every year from 1879–1882 that the trees with no more top than they should have, stand the blight best. In short, healthy trees with no more top than roots are not liable to the disease. During the past season I believe I have seen hundreds of trees blighted, all over Winnebago, Waupaca, Shawano and Outagamie counties. They had received all kinds of treatment, grew on all sorts of soil and had every exposure. Crabs were as bad as the rest; they all had more top than was good. But I have seen very few blighted limbs on clean trees with small tops, so that each branch could get nourishment enough from the roots. I claim that the tree is overtaxed with limbs and fruit. By watching our trees we can soon tell how much fruit each can bear without overstraining itself. I shall go on in this line, giving more roots and less top, with clean, loose culture. We feel that we can safely plant more trees, relying on the varieties commended by the Horticultural Society of your state, between 1876 and 1882, provided we buy from Wisconsin nurserymen, and leave the tree-peddler severely alone.

In May, 1882, I put cotton around several trees, about six inches from the ground, to keep the bug off. I had also lamps burning over several tubs of water from May 30 to August 1; salt was put around some trees, some six to ten inches. As a result, I caught several hundreds of insects every warm night, I have never seen before. On cold nights I caught none.

I examined the cotton around the trees every morning and found sometimes as many as six to ten female May-beetles entangled in the cotton on a single tree. I could examine about fifteen trees an hour, and destroy about a hundred insects a morning, but I found I caught more on warm dark nights than on cold nights. Neither salt nor ashes did any good. In the fall I had worm-stung apples on all the trees, more or less, but there were fewer on those on which I had put the cotton, so I find I can master them to

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some extent, after all.* When these experiments were tried the orchard was cultivated with potatoes. I think in 1883 I shall not have so many of the unknown insects in my orchard, as I know that several thousand were killed by the light or water in my traps.

Now will it pay to plant trees and fuss around them so? Are we not crazy or nearly so? We can't raise apples, people tell us. Ought we not to give it up, since there is no use in spending time and money on what can't be done? Let us see.

In 1875 I planted one Duchess, price 35 cents. Number 201. In 1879 I sold apples from it for $5.35; in 1880, $3.00; in 1881, $5.00; in 1882 would not permit it to bear at all.—Total, $13.35. I have several trees set out at the same time, nearly as good, and altogether 170 trees of this variety. Will it pay? I say it will if we understand our business; but we must learn what is to be done winter and summer, fall and spring; we must know our trees, what they need and what is to be done for them; then they will not often disappoint us. Remember, though, one can not grow golden apples with his hands in his pocket, and a cigar in his mouth, condemning the trees, on street corners. They must be watched as carefully as we watch over our children, and even then some will die.

The reports sent out by our Society should be read. I dare say we shall not go far astray if we follow their advice. It takes years of waiting, watching and toil, with many disappointments, to get a good orchard, and I admit it seems hard to dig up thirty old apple trees every spring, but where is the man who has not done it? We like lessons in the a, b, c's yet, and it takes years to go through the alphabet. We owe the members of our Society a debt of gratitude for the information they have given us in the annual volumes, and we will be long in paying it. Mr. Stickney's advice to plant two trees for every one that dies is well worth remem-

*NOTE.—[If Mr. Anderson refers to the codling moth, the cause of most worminess in apples, a better remedy would have been spraying the trees with Paris-green or London purple, and water (a tablespoonful of the poison to two gallons of water) by a fountain pump. One application about two weeks after blossoming, and another a month later effectually checks the ravages of the insect, according to Prof. Cook.— ED.]

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bering. I only wonder that, after having been to the annual meeting in 1873, I could have been such a fool as to let an agent take my order for trees. Let the tree peddler alone; have nothing to do with him under any circumstances! but buy of responsible Wisconsin men, known to us and to our Society. At the present rate, we shall have no fruit trees in ten or fifteen years. The peddler still has it his own way in Winnebago county. Years back we had a Horticultural Society, but it is gone — dead, like the trees.

Let farmers who swear that we can't raise fruit, try it. I have an acre of grapes growing, as well as strawberry, raspberries and currants, but neither plums nor pears, for I consider it useless to try and raise them. The rest are as certain as wheat or corn. Frequently a neighbor's wife or daughter comes to pick some of our delicious fruit, though they have large farms themselves, but not a berry on them. Try to please the ladies by growing fruit. They all like it, as you do yourselves.

In the future I shall try to experiment with the insect enemies of our fruit trees. Friend Philips' faith in my work is encouraging. I have faith in the future of Wisconsin fruit growing, but I shall keep inside of the recommended list of the Horticultural Society. I should advise anyone to have few varieties, and not to plant a single tree unless it is to be cared for.

THE PANSY.

By WILLIAM TOOLE, North Freedom, Wis.

"When is the best time to sow pansy seeds?" "Will they flower the same season in which they are sown?" "Ought they not always to be planted in the shade?" "Do they not grow best in sandy soil?" "Don't they do best, to sow themselves?" "Won't pansies soon run out if people save their own seed?" "Do not the different kinds mix if grown near each other?" "Where do you buy the best pansy seed?" "How do you save pansy seeds?" "How do you keep the plants through the winter?" etc.

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If pansy plants are grown for sale, the seeds should be sown late in August or early in September, and when large enough to be transplanted, the young plants should be set out closely in a cold frame for winter protection. These plants if forwarded in frames early in spring can be offered to customers in bloom. The buyers give them a warm situation, where they bloom freely for a short time, and then comes disappointment, for the plants with their efforts to bear seed soon exhaust themselves; they succumb to midsummer heat, and in autumn when they should be in their glory, they are gone.

If buyers would insist on receiving stocky plants, even though obliged to wait a little longer for them, and after planting would carefully remove buds and flowers until the plants are well established, the flowers would be finer, the colors more rich, and the life of the plants would be much more prolonged.

When the hot summer weather comes, and the branches are long and straggling, they should be cut back to induce a new growth, which will furnish flowers during late summer and fall.

No plant shows more plainly than does the pansy, the truth of the saying that, "threatening the life of a plant, hastens its tendency to flower and bear seed;" or another, equally true, that any plant having borne seed freely, shows less instinct for self-preservation. For these reasons, plants started early in the fall previous, are in condition to bloom early and be exhausted by the time hot weather comes.

Plants started early in green house, hot bed or window, will give a fine show of spring flowers, continuing well into the summer; but their later blooming must be sacrificed, if more is to be required of them in the fall. To give a succession of flowers throughout the season, either fall or very early spring sowing is required — perhaps we should say late winter — to be followed by sowing after spring has commenced.

As transplanting induces the plant to run up to flower, which must be checked for durability, it would be better for decorating public grounds in summer, to transplant the spring seedlings into three-inch pots in which they may be kept in

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reserve in a nursery bed, from which they could be removed, after robustness has been secured, to the place which it is intended they shall decorate. Spring plants thus treated will, during the hot weather of July, give a fine display of flowers. Even on private grounds, which are somewhat public in location or character, absence of display for any considerable length of time is not desirable, nor, with judicious nursery treatment of plants, is it necessary.

But people generally buy plants of all kinds in early spring, when the planting fever prevails. They must have them in bloom, and dealers could not sell enough of better plants to pay for keeping them in stock.

Those who grow their plants from seed, should, if sowing but once in the year, do so early in spring, when the weather is cool and the air moist. If sown as early in the spring as the weather will permit early garden work, shading may not be necessary; but it is better to provide some kind of shade to shield from drying winds, and the seed bed should be watered as often as is necessary, to prevent the surface from baking, for if the seeds are once dried after the germs have started, another planting will be necessary, no matter how good the seeds were.

I have used, at different times to prevent drying, glass, sheeting, evergreen and other leafy branches, boards and laths. Glass is desirable only to cover very early planting, because the warmth admitted, though desirable in April, might be too great in June, for pansy seeds will not grow with too high a temperature, even when all other conditions are favorable. For shading in late summer, I like leafy branches better than anything else, because there seems to be a coolness resulting from evaporation through them, while the seed may be watered without their removal, and the soil does not become packed after heavy rains. The branches may be removed gradually, to accustom the seedlings to full light and air, to which they should be inured as quickly as they can bear the change.

Those who sow but few seeds will find it most convenient to stretch muslin or sheeting over a box without bottom for shading the seed bed; but for starting plants from seed on a

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large scale, I have found nothing more convenient than a covering of laths, raised about eight inches above the seed bed, and placed quite near each other, until the seedlings have come up, when the spaces can be made wider, until the plants are rooted deep enough to need no shading. These remarks about shading apply also to celery, as well as to the different species of Dianthus, and many other kinds of flowers.

For my seed bed I use recently decayed fibrous vegetable mold mixed with some sand and thoroughly decayed manure; the mixture being passed through a sieve from an oldfanning mill. The surface of the bed is raked smooth and level, and then pressed even with a board, after which shallow furrows are made about one-sixteenth of an inch deep, by pressing down the sharpened edge of a lath.

The seeds are scattered thinly in the rows and covered carefully with the fingers, and when the covering is completed, the bed, is again pressed with the board. Watering with a fine rose, if carefully done, is better than heavy rains for any delicate kind of seed. If there is danger of the plants becoming drawn and slender with overcrowding, they should be soon transplanted, but, if the seeds have not been sown too thickly, the plants will bear removal better if not transplanted until they have six or eight leaves.

For pansies a rich loam or clayey loam is preferable to a sandy soil, because the colors of the flowers are richer, and the flowers finer and more lasting during hot and dry weather than if they are grown on a sandy, or stiff clay soil. Taking the chances of the season through, I do not like a shady situation for pansies, but prefer an eastern or northern slope, if possible, away from trees or buildings which may sometimes deprive the plants of the benefit of several successive rains, but I seldom shade the plants even after transplanting, for, if the bed has been kept fine for sometime before the plants are set out, watering and shading are seldom necessary, if the soil is well pressed about the roots.

If it is intended to grow the different classes or colors separate from each other, selections may be made and the plants

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reset, after they commence to flower, which they will do late in June or early in July, if from early sown seeds. I have never yet bought seed of any particular class which was entirely free from mixtures.

After transplanting, the flowers and buds should always be removed until the plants show signs of being well established in their new situation.

Flowers may be had early in June from seeds sown in the window, or a hot-bed, in March, but few persons will give the care necessary to prevent the plants damping off or becoming drawn.

No matter what may be the natural fertility of the soil it can be improved for pansies by an application of thoroughly decayed manure, while no satisfaction need be expected if the soil is poor, or neglected after cultivation.

As I grow many plants I prefer to set them in long rows, about eight inches apart in the rows, and the rows about eighteen inches asunder, with a path between each two rows.

After the middle of August an application of well decayed manure, as a light mulch, is beneficial if there are no hens to assist in spreading. As they sadly overdo their work, it had better be omitted if their assistance cannot be prevented. The young plants can be saved from being scratched out by hens, by sticking over each plant in a slanting position a piece of shingle, hazel switch, or other stick, about ten inches long, so that about six inches may be out of the ground.

If the flowers are grown on a poor soil, or during very hot, dry weather, the inexperienced would scarcely realize the beauty possible from the same plants, with more favorable conditions. The possible beauty of flowers from any plant is seldom shown in the first blossoms. The colors in the fall are much richer and deeper, so much so, that plants, which have shown nearly pure white flowers through the summer, will, later in the season, have an amount of color which is disappointing if white ones are desired.

There is, with the pansy, a tendency to change in two directions; one to differ from the parent, either by mixing or

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through natural tendency to variation; the other to revert to the original form and colors of the species, as shown in the Johnny-jump-ups, of the old fashioned gardens, which are, like the original type, growing wild in the fields of England.

If self-sown plants are depended upon, they rapidly degenerate, because those nearest to the original type are most prolific of seeds, and more hardy than improved varieties. The same holds true if seeds are saved without careful selection, though the process of reversion will be somewhat slower; but if we desire to improve what we have, we must select seeds with certain objects in view, such as distinctness or peculiarity of markings, size of flowers, good form, that is, round, and not long or triangular flowers, beautiful colors and robust growth of plants.

If a selection is made with a view of fixing any peculiar shade of color or markings, it is interesting to notice how the flowers of future plants will, while having a general resemblance to the parent, differ in many respects from each other.

A few years ago a plant attracted my attention, its flowers being shaded with a peculiar blending of purple over the other colors. I thought I was going to bring out a novelty, and was intending to call it "Rainbow," but last season I found that my Rainbow, much improved, had been brought out by the dealers as "Quadricolor."

I would say, then, from my own experience, that pansies will not run out in the hands of careful, amateur growers, but will steadily improve in proportion to the care taken in selection, but it is a question for each to decide for himself if the pleasure derived will pay for the time expended. Perhaps those who do not love pansies sufficiently to make them a hobby, would do better to depend on purchased seed.

Even when the characters of a variety are in some measure fixed, as with the Emperor William, there will seldom be two plants with flowers alike, so that when people read descriptions of new varieties, they should understand that they apply only in a general way, for it would take a long time, if it be at all possible, to make any particular markings constant.

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Some varieties do not bear seed so freely as others. This is particularly true of the "Odier" or five blotched, and the best specimens of black. On the other hand, I sometimes pull up and throw away plants having only the fault of seeding too freely, because their style might be too often represented in the future.

To what extent pansies will mix, if the different varieties are grown in proximity, I do not know. That changes more striking result from mixing than from inherent tendency to vary, many years of observation have shown me; but as my desire has been mainly to have the best, in great variety, I have not made much endeavor to keep varieties pure by isolation, and have only tried to prevent mechanical mixture of the seeds which requires care, because the seeds will shoot from the pods several feet when drying.

As to which dealers furnish the best varieties, it is a difficult question to answer. Of the many dealers patronized, all have pleased me, and each have at some time or other given disappointment.

While pansies are largest and most beautiful in cool, moist weather, they seed more abundantly when the weather is tolerably dry and warm.

Constant watchfulness is required when sowing the seed, or the divisions of the pods will close together, shooting the seeds in all directions just before one thinks they are ready to be picked. After the pods are full grown, watch them closely, and when the next pod above has reached its full size, the first will be about ready to pick; and so with each succeeding pod.

When they have reached their stage of growth, the divisions where the pods will separate, should have a hard, bony appearance; then they should be gathered.

The seeds should have commenced to turn brown before being gathered, and a close observer, after opening a few pods, can soon tell, by the external appearance, when they should be picked. The pods should be dried in an airy place, and not allowed to become mouldy, whicw hill happen if they lie too closely together. They should be covered, when

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drying, with mosquito netting or other open fabric, to prevent the seeds from scattering.

Those who do not care to save the seeds, should remove the flowers as soon as they have withered; for by so doing they will improve future flowers, and make the plants more enduring. If fine flowers are desired for any particular occasion, we can, by keeping all flowers from expanding for a couple of weeks, until a few days before the time, greatly promote the desired object. Plants which have commenced to flower early and have borne seeds freely, until the close of the season, will not live over winter, even with the best of care, except in very mild seasons. Young plants, with the same protection, stand the winter much better than old ones, but if those which have flowered much are cut back early enough to promote new growth before winter, their chances for living will be greatly enhanced.

A cold-frame furnishes the best protection for young or old plants, but most persons, including the writer, must use some substitute, for which nothing is better than a covering of light branches, among which forest leaves have been shaken, or straw may be substituted for the leaves.

Precautions should be taken before winter sets in, to guard against ice or water collecting around the plants.

A QUARTER OF A CENTURY OF FAILURES IN FRUIT CULTURE.

By A. W. SIAS, Rochester, Minn.

Some one has said of the poet Tennyson, that his "vanity, egotism and self absorption are so great as to leave no room for manners." Now while I do not covet such a reputation as this, I am at a loss to know how to relate all our failures without talking much about myself, and in that case of course I might be mistaken for an egotist, but as I have the enviable reputation of being a modest member of the Minnesota State Horticultural Society, I shall try hard to maintain this distinction of which I am so justly proud, as this is a rare bird on our side

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of the river among "Tree Peddlers." This is the first opportunity I have had in meeting in connection with this society, although I have been slowly plodding along in this good work just across the "Father of waters," for about twenty-five years, and after meeting in our own state such worthy members of your Society as President Smith, Geo. Peffer, A. J. Philips, E. Wilcox, J. C. Plumb, and others, it is not strange that I had looked forward to this meeting with high anticipations of pleasure and profit. To undertake to show up all the failures that we have met with time during the past twenty-five years, would require all the usually devoted to one of your winter sessions.

The first cause of failure that came under my observation on my arrival in Minnesota, was that of planting trees that originated in New England and the Middle States, none of which proved of sufficient hardiness to withstand our higher and dryer climate. 2d one: Great cause of failure was lack of care and cultivation, allowing the trees to dry up during seasons of drought. Have never yet seen an orchard in our state that was plowed and cultivated as much as it should have been. Every time you plow and drag an orchard you destroy millions of insect eggs, and at the same time kill myriads of insects that play such sad havoc on both tree and fruit. Thorough cultivation serves the double purpose of ridding the soil of injurious insect life, and bringing the trees safely through a season of protracted drought, which without such thorough cultivation sometimes causes the death of more trees than our most severe winters. There is no *substitute for moisture* in the orchard, it must be constantly kept up or your trees will surely perish. The more you cultivate, the better is the soil prepared to utilize the moisture from the atmosphere, and in no other way can you successfully combat the oft repeated objection that Minnesota is too high and dry for successful fruit culture.

3d. Failures caused by locating orchards in low, frosty valleys, and in many cases too closely and heavily sheltered by tall forest trees, thus shutting out a free circulation of air, which is so essential in districts subject to blight. Have

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seen rows of Duchess blighted to the ground in such unfavorable situations, and have never known them to suffer from the effects of blight in any other locations.

4th. Another prolific cause of failure in Minnesota, has recently been found to consist in planting too many Siberian Crabs and Hybrids, so called, thus furnishing the best possible plants as far as we know, for the successful propagation of the blight, and at the same time crowding the market with fruit, as a rule of inferior size and quality, that will seldom command over one-half the price of a good standard apple. When Chas. Gibb, of Abbotsford, Province of Quebec, and Prof. Budd, of Iowa, shall have succeeded in bringing our long list of Russian fruits out of the mist and fog that surrounds them, and shall have boiled them down and *seasoned* them to our taste, *then* I predict we may safely substitute them for our Siberian crabs. Yes, and for the most of our so-called Hybrids too.

WHY DON'T OUR PEOPLE RAISE MORE FRUIT?

By J. WAKEFIELD, Fremont.

Our people are not all Smiths, Plumbs, Kelloggs, and some others I might mention, and I suppose that is one reason why they don't raise more fruit.

I shall attempt to give some of the reasons why the thing is so generally neglected, prefacing my remarks with the information that I am but a novice in the business, and have lived, for the past quarter of a century, away up north, among the pine stumps of Waupaca county, where, until quite recently, the majority of us, "natives," were not very well posted in horticultural matters, hardly knowing the difference between a standard apple and a crab, or whether dried apples were raised on trees or vines.

Did you ever know a man, woman, or any body else, who wasn't fond of ripe, mellow apples, or delicious grapes or berries? And yet, how very few raise them. Because our earliest progenitors had a taste for wild crab apples, is no

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reason why we should relish such things. They could get nothing better, while we may if we will.

We are obliged to admit that fruit raising in Wisconsin has been attended with many disappointments and failures. But those who have profited by past experience and, instead of becoming discouraged, have tried again, and kept trying, have generally been successful, and now reap the reward.

Can we expect anything desirable without working for it? It is a law of nature that we must *earn* our blessings, or *steal them.* But few of us have rich, old uncles, or rich aunts, who are anxious for the privilege of willing us uncounted ducats, which we do not deserve, and for which they have toiled and saved just to empty into our leaky pockets.

As with money, so with everything else; it is the diligent that win. And it is best so. If everything grew ready for the plucking, we would soon be too lazy to pluck. I once heard a neighbor remark that he wished he had been Adam in that ancient garden, where he could have had so many nice things just for the picking. I told him I wished so too, for in that case, he would have been too lazy to eat the fruit, even after the old lady had plucked it for him, and, consequently, there would have been no "transgression."

Some won't set out trees because it takes so long for them to grow. They can't wait.

A few years ago I was setting out an orchard of some two hundred quite small trees. A neighbor made light of a gray headed man like me setting out such small trees, and expecting ever to receive much benefit from them. But I kept on just the same, and the past season we had from those same trees nearly all the apples we shall need, and we expect with average luck, to live and drink barrels of cider made from the fruit raised in that orchard, and my neighbor hasn't even a crab tree yet. I expect to keep on setting out trees while I live. I may never have any grandchildren to thank me for my labors, but I presume somebody else will.

Others refuse to raise fruit because they have no time to bother with the "plaguey things." They consider the time spent in the orchard, garden or vineyard, as just so much

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thrown away. And thus they live from year to year, no flowers, in cool, pleasant groves about their houses, no trees in the spring loaded with beautiful blossoms, soon to be replaced by rich and health-giving fruit; no attractions to make their sons love the old homesteads, or their daughters ambitious to become farmers' wives. It is true, they may become rich, but — that is all. If man can find nothing nobler to do in this world than getting rich, the sooner he sneaks out of it the better. Delving is only a part of man's mission here.

It requires the exercise of at least a little plain common sense to achieve success in raising fruit. Some people know it all at the start, but the successful man gets his information at the other end of the route. Experience is said to be a good teacher, but what a dearth of apt scholars! Horticulture, as any other science, must be learned. Nothing comes by intuition, and that is the reason why so many fail. They won't learn. One failure settles them. They never try again, and their wives must continue to work up their neighbors' fruit on shares, while their boys are bound to steal *theirs*.

Years ago our society resolved that fruit would grow in Wisconsin, but that didn't prevent the majority of our apple trees from growing black-hearted the next winter. Our faith didn't save us that time. Our orchards went up, all the same. But other orchards were planted, and yet others, while our neighbors jeered at us, and predicted all sorts of evil, and would have nothing to do in the matter. But our faith still held out, and we kept on planting, failing sometimes, but always trying to grow wiser from each failure, until to-day Waupaca county takes no "back seat" among the fruit growing counties of northern Wisconsin. Our seedlings are among the finest in the state, both in flavor, hardiness and productiveness.

And yet the howl goes up from two-thirds of our people, "fruit raising is a failure in Wisconsin." So it is — with them. And it ought to be. They don't deserve anything better than Soulard Crabs, because they won't half try for anything better.

We may fail again. Our trusted seedling may "go back

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on us." An Arctic blast may chill the life out of kinds that we now deem invulnerable. But "sufficient for the day is the evil thereof." We *do* raise good fruit, and that is more than our faint-hearted neighbors can boast of.

If our people could be induced to take and read more Agricultural and Horticultural books, and in addition to home journals, papers like the *Western Farmer, Prairie Farmer* and kindred publications, there would be a great change for the better among the masses. There is nothing like the independent, practical, honest press to educate the people, and Brother Plumb and his co-laborers are doing a good work. May they be encouraged, for they earn all they get.

Our local and state horticultural societies are a power in the good work, and should receive liberal aid from the state, and no bill in the legislature last winter received a heartier "aye" from me than the one giving the state society the pittance asked for. It ought to have been doubled. So with the state agricultural societies, and the grant ought not to have been rendered worthless by being loaded down with inconvenient, if not insulting conditions.

There is an increasing desire on the part of our own people to obtain the publications of our state society, and greater facilities should be afforded for their more general dissemination. Also, lecturers are needed, and a moiety of the funds now appropriated to enable a few gentlemen to occasionally parade the streets of our cities and exhibit their ball coats and brass buttons, to the great wonder and delight of the small gamins and envy of the bigger ones, could be profitably expended in paying such lecturers. While the cities could be no worse off, the country would certainly gain by the economy.

CLIMATIC CONDITIONS OF THE YEAR 1883, IN THEIR RELATION TO THE APPLE.

By J. C. PLUMB, Milton, Wisconsin, Green Bay, December, 1883.

One of the most interesting phenomena of the past year from a pomological stand-point, is the general failure of the apple crop, within a wide area, known as the most natural apple region of our country.

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This area may be roughly outlined, as that between latitude 40 on the south, and 44 on the north, or a width of four degrees, about 280 miles, extending from the Missouri river to the Atlantic sea board.

This limit in our meridian may be stated as reaching from Champaign, Illinois, to Oshkosh or Menasha, Wisconsin, on the north. The width of this belt is often variable, but marked enough to call for special investigation as to the cause of this general and remarkable failure of the apple crop within this area the past season of 1883.

I say remarkable, because in the last thirty years of my experience in the west, as my memory now serves me, no such wide spread and general failure has before occurred, and all the more remarkable, because within the last twenty years there has been great advance in the art and practice of growing this fruit. New varieties have been introduced, having largely increased adaptation; better locations have been chosen for orchard sites; more intelligent ideas of, and increased facilities for destroying insects prejudicial to this fruit, are now well known.

And yet we have this great dearth of apples, while to the north of this belt we find a full average crop was produced, and south of it we find the same, and in some cases much more, and that following the excessive yield of the previous year, 1882.

So far, my extensive reading goes to show that this remarkable phenomenon is yet unaccounted for by any writer since the fact became known.

In my investigations of this subject I have brought up in turn the ordinary influences which are known to affect the apple in the following order:

First, spring frosts; second, insects; third, want of vitality in the tree; fourth, infertilization; fifth, mis-nutrition.

First. Was it spring frosts affecting the embryo fruit at or soon after blooming? If so, then we might reasonably expect the hill tops and water slopes, which are always least affected by untimely frosts, to have have produced the most fruit. On the contrary, sheltered locations gave the most, and that most perfect.

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Second. Were destructive insects uncommonly plenty? It is well known that the year following an abundant crop of apples, is the time to expect an overflow of insects which prey upon that fruit, for the reason, that in the fruitful year they breed with comparative security and with great rapidity, and so come forth the next year in corresponding numbers and vigor. But as 1882 was not a year of great abundance of apples in this belt, we saw no great destruction by them, until other causes intervened to shorten the crop this year. So while insects were "in at the death," as usual, the general failure cannot be laid to their charge this year.

Third. Were our trees weakened by the very severe winter of 1882–3? Undoubtedly they were; many of them, unusually so, but not this even can account for the barrenness of the Siberians and hybrids, which are among the hardiest of the apple species, while the Golden Russett, not even an ironclad, bore almost its usual crop throughout all this region. The winter of 1881–2 was not in any sense a very severe one on fruit trees in our state, and yet the Siberians, as a class, failed to perfect their fruit, giving us even less than the half hardy apples. In 1882, both Michigan and New York had less than a full average crop of apples, and in both states there was, this past season, the most entire failure ever known in that crop. I have not heard a word from any fruit grower in either of those states indicating a debilitated condition of the tree, as the cause of barrenness.

If weakness from the effects of winter were a cause, then why do we find such a show of fruit at this meeting from Minnesota, and why the grand display which that state made at the meeting of the American Society, at Philadelphia last fall, which was nearly all produced north of this barren belt which I have described to you. There were, no doubt, cases, in which overbearing last year was a good and sufficient reason for the short crop this year, such being the case with the orchard of friend Phillips, in La Crosse county, and which lies just on the border of this belt, but not so the great mass of the barren orchards within this belt.

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Fourth. Three common causes of barrenness, either separate or combined, failing to account for the short crop of apples the past season, we turn to the most potent and yet more subtile and often least suspected of any.

INFERTILIZATION.

The principles involved in the pollenization of plants are well understood and defined, and the laws which govern it are taught in all our higher schools. But the processes are so quiet, and dependent upon so many conditions that few can trace them to their success or failure. When all other conditions fail to prove a sufficient cause for the absence of fruit, we may well inquire as to the efficiency of this process in the case in hand.

So we turn to this as the first great cause of the barrenness of our apple trees the past summer within the belt described.

The atmospheric conditions of successful pollenization of the apple are warm sunshine and gentle showers, which favor both the proper secretions of the organs of the flower and its distribution mid-air, or by the help of insect life.

We are told that the apple blossom is especially dependent upon insects for its proper fertilization; some varieties being so weak in staminate action as to require the help of other and stronger flowers, which they get mainly through the help of insects which flit from flower to flower.

Now, were the atmospheric conditions favorable to these processes last spring at blooming time? I find on referring to my record, that we had from the 16th to the 28th of May but one day in which pollen of the apple would develop, or in which bees would carry it from flower to flower, which was the 24th. This was my judgment at the time, from frequent observations. There were in that time stated seven days in which a cold rain fell, or of cold, cloudy weather, and similar conditions doubtless prevailed over the entire north.

As the result of this want of fertilization, the young fruit did not set as profusely as usual, and that which did form seemed lacking in some essential of success, and most of it fell to the ground before the apple worm had made any serious inroads upon it.

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Now, you may ask, why did not the apple north of or south of that belt suffer from the same cause?. In answer to which we reply, simply because the bloom was not out during the period of unfavorable weather north of the belt, and south of it the blooming was passed. In other words, both sides of this barren belt had more genial skies during the critical period of fertilization.

From the 24th to the 30th of May inclusive, we had five days out of the seven, most favorable for pollenization, and we found that the section where the apple would be in bloom during those days produced an abundant crop of fruit. On the other hand, from the 7th to the 16th of that month there were five days or more of favorable weather for the apple bloom; hence, the usual crop of fruit in southern Illinois.

Unfavorable general conditions of weather seemed to continue at spells through all the early summer, and consequently nearly all varieties of apples were checked in their leaf growth, failing to make well developed foliage, and here we have the fifth cause — *want of nutrition.* Such half-formed, imperfect foliage could not assimilate plant food, neither for the tree nor its fruit, and consequently, those varieties which did set young fruit well could not hold it, and a common remark was, "our apples don't grow any." This was truly the case until the hot, dry weather of August came on, which soon gave a better foliage and enlarging of the fruit rapidly.

This was the case with our St. Lawrence and Golden Russett, but the former, with most of the earlier varieties, lost its fruit when less than one-fourth size, while the latter held its fruit as before stated. This effect of too much cold, wet weather in early summer, was seen more plainly in the nursery, where some of our most vigorous varieties of both apple and crab, under high culture, failed to make more than one-half the growth usual to them, while other varieties seemed at home and throve whatever the weather might be. Such was the Duchess and Hyslop, but the same varieties failed to fruit generally in this belt.

So we have this last cause of failure, closely allied to that

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of infertilization, as nutrition follows germination in the natural order of progress in life.

I know that most of our observers will ascribe this fruit failure to the "*blight*," and showing its presence at that time will rest their case there, against the universal bacteria. But, believing as I do, that blight is not a primary, but a secondary cause, which is dependent upon peculiar conditions of climate and soil, and vital force in the plant for its extension, and its power to injure the plant, I look upon its appearance as the result of, or the concomitant of these various unfavorable natural conditions which weaken the plant, and load it with morbid matter, when it becomes an easy prey to this universal scavenger, blight.

It would be an interesting study to follow next year, the same line of observations, and also to note the effect on the health of the tree, and its fruit bearing next year, both as a result of this year's affection and the next year's causes. As horticulturists we need to know all the conditions of success or failure if it be possible, that we may overcome them, evade them, or bear more patiently what we cannot help.

This paper was designed to be more suggestive than discoursive, therefore we trust you will give the subject your most careful attention.

THE NORTHERN AND THE SOUTHERN HOME.

By MRS. IDA E. TILSON, West Salem, Wis.

The chances are that a northern visitor's first impressions of any part of the south will be disappointing, though, of course, each person will see with somewhat different eyes. Oranges, palms, magnolias, camellias, and even wild flowers, do not grow in such profusion as expected. One need not go far beyond New Orleans to find dismal marshes, nor much further to sandy barrens. The streets of Jacksonville, at no great great distance, end in palmetto scrub or pine woods. Log huts and primitive looking premises are not unknown round about Nashville. Yet quaint New Orleans recalls oriental tales and pictures, lovely Jacksonville is the Florida

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of one's imagination, and stately Nashville is long remembered for its rich and tasty homes. A vast number of semi-tropical trees, shrubs, flowers and fruits, will grow, with proper care, in the southern states. Tea, coffee, cassava, date-palm, Japanese magnolia, and a long list of Chinese fruits, are among more recent introductions, while the well-tested orange and the native growths are justly celebrated. Some houses have delightful yards and gardens. If the northern visitor wonders why there are so few such surroundings, he ought also to wonder why his own section of country has so few apple and plum orchards, and why the black walnut, butternut, snow-ball, clematis, and other valuable and beautiful northern horticultural materials, are not more utilized.

We may conclude, then, that homes, south as well as north, thrive only under rational cultivation. In all, work is essential to success, and in none does work seem to be a perfectly natural and easy exercise.

The horticulturist looking for a location, may profitably consider the comparative claims of these two parts of our country, and can, to some extent, correctly judge one region by the other.

I am aware of little stony soil south, except in some of the border states and in parts of Louisiana. Every variety of clay, sand, muck, and loam can be found. There is still much unoccupied land. A portion was never improved, other portions, cultivated before the war, have reverted to government for unpaid taxes, etc. Excellent land has been sold in Mississippi and Florida for $1.25 per acre; $30 an acre would often be considered a high price. Certain tracts require drainage, and equally so in Illinois. The rainfall is abundant, except in western Texas. Thus far, the north, and especially Dakota and the whole northwest, can probably claim equal advantages.

Dr. Jacques, author of several descriptive works, concedes, all things considered, to southern Alabama and Georgia and northern Florida, the finest climate in the world. Nevertheless, Nevada, Iowa, and Minnesota, rank higher in point of healthfulness than any southern states, Florida alone ex-

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cepted. Fever and ague are formidable rivals of catarrh and consumption. Many people highly prize relief from coal-stove gases and from cellar germs attendant on some furnaces, so-called causes of diphtheria, and choose to dwell where ancient fire-places still linger, and only grates and small stoves are in requisition. They, however, retain the privilege of taking cold; for sharp winds stray from the north, and seasons vary as with us. To illustrate dissimilarity of temperatures, I can recall three chance tarryings in Tennessee, in three different months, January, March and October, when I neither had nor needed fires. In Alabama and Florida, at similar seasons of year, extra warmth has been very acceptable.

It is pleasant to be surrounded all the while by verdure, flowers and growing food crops. In Florida the tired housewife does not need to house her choice plants, and elsewhere the shelter of a porch, or occasional coverings at night, are sufficient. The fruit grower less often mourns an untimely frost, and if it does come he finds compensation in its check to insects and its hardening of wood. Houses with their longest sides turned toward streets and front yards, and composed largely of halls and piazzas, hint of winter's gentle sway and summer's mellow moonlight evenings. Nothing can be more restful than this constant communion with nature, with a beauty that never loses its peace. Mrs. Stowe, you remember, in her "Palmetto Leaves," says that winter is a tidy dame, north, where with her broom of winds she sweeps every tree clean, and lays over all the earth a snowy mantle of purity. November and December do produce some changes in a southern landscape; vegetation wears a more sickly hue, yellow leaves are dropping simultaneously with the coming of young green ones, till January makes everything as good as new. Generally, tedious summers is the price paid for mild winters. The brief and varied northern season give our eyes no hint how such continual glare and sunshine try weak optics.

From a financial stand-point, an "all round the year" summer may be desirable. The southern market gardener raises his produce at a time when his northern rival cannot com-

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pete. He will, therefore, get more for a bushel of early vegetables than for half a dozen bushels later. Nor, as the year advances, need he leave the field, but can go right on and equal northern results.

Gardening ordinarily begins with January. I have seen it commence at that time in both Mississippi and Florida. An acquaintance in Tennessee made her garden in January of this year. Early efforts might need guarding from frost. I have heard of people building bonfires for such a purpose. Later plantings sometimes have a rough arbor built over them to exclude the sun's attentions. In Florida a second regular planting season begins with September.

While the months now roll around, each will be found to have, not a presiding deity, but a presiding bug. The horticulturist, who is, or ought to be, a practical man, will be relieved to learn that these pests are chiefly blood-relations to mosquitoes, gnats, fleas, etc., who prey upon his unmarketable self rather than on his fruits. Our hardy curculio, potato bug, rose bug, aphis and their friends are comparatively rare south of the Potomac and the Ohio. Whether they have not yet learned the way thither, or whether the climate is unsuitable, naturalists do not seem to be decided.

Strawberries are not a northern product alone. They are raised in northern Florida, and very extensively about Charleston, South Carolina. I have eaten beauties in April at Charleston, and seen large quantities shipped the same month. Huckleberries and blackberries have a wide range. The woods of Wisconsin and Florida are equally full. The first American vineyard was in Virginia. South Carolina has long been noted for its native grape, the Scuppernong, vines of which often reach an immense size. Florida has a grape, really the same variety, more commonly known there as Bullace's. The Catawba itself was first found wild in Maryland, but northern soil has seemed more congenial, noticeably about Cleveland. A few fine hybrids from native and exotic kinds have been produced in South Carolina. On the whole, grape culture has received little attention south, and New York and Connecticut growers can exhibit much greater areas, better methods, and more solid pecuniary

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success. Maryland has long rivaled New York and New Jersey in peach culture. Mr. Barbour, in a recent work, says: "Near Orange City, Florida, is undoubtedly the largest tree of this kind in America, with a spread of branches over seventy feet in diameter." I never saw it; have eaten its fruits, however, and believe in the tree.

Georgia is now rapidly developing into a peach state. While the cultivation is extending south, Michigan and Nebraska are boasting of equal success. Some late reports from Michigan seem to indicate that peach orchards, under a like, patient, scientific care, will pay almost as well as orange groves themselves. There is perhaps less danger of overdoing orange production. Not all of Florida, and small areas comparatively of California, Louisiana and California, can be fitted for this tree. It demands more labor, money, and time, than the peach, not often bearing till six or eight years old, and seldom giving an income before fifteen or seventeen years of age. Its whole life, fortunately, is on the same leisurely plan, and Floridians say an orange tree is in the very prime when 'tis one hundred. It has its own special enemies, and, at present, there is a great variety of methods in planting and cultivation, the whole more or less experimental. Apples grown south are usually so small hard, and bitter, they are popularly known as "horse apples." As far north as Missouri, I have eaten excellent specimens of this fruit in March, a testimony to their keeping qualities. I have heard Floridians and Alabamians say an apple is more delicious than an orange. Here again, "distance lends enchantment." The dainty quince finds congenial spots, south as well as north. Pomegranates, figs, and pine-apples are semi-tropical to be sure. In compensation, our bright, tart currants reach only to Kentucky, and raspberries to Georgia. Pecans, almonds, and other nuts, which thrive from Arkansas on down, are rather more appetizing than our butternuts and hickory nuts. Shade often being desirable south, to raise vegetables among trees, thus getting a double use of the land, is more common and feasible than here.

The horticulturist's wife may be interested in a more ex-

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tended notice of ornamental plants. I shall always remember a flower garden in Florida, self-sown with Drummond's phlox, almost as thick as grass. The yellow jessamine, verbena, cactus, passion-flower, yucca, and parent rose of the Baltimore Belle and Prairie Queen, grow wild in many parts of the south. Yet we have the same rose, called the Michigan climber, in northern woods. Wisconsin shares in the honeysuckle, Pennsylvania in the laurel and jessamine, and the plains of the west in the cactus. Licorice is also found about Lake Erie, and wild verbenas and passion vines grow in Illinois. Arbor vitæ and juniper, though used as far south as Florida, to my mind make the most beautiful hedges in the middle and border states.

Among foreign plants, the pelargonium, or geranium, is fond of heat. Within my yard in Florida, there grew a fish geranium which, with only fair care, was almost a shrub, and had at once twenty-six full clusters of blossoms, and for about three months had at no time less than sixteen clusters. Calla's, in contrast with our hot water treatment, ask there for the north side of a house. The Cherokee rose, now known to be originally from China, likewise the McCartney rose, grow in many localities like natives. Some hedges are in full vigor, fifty years old, with shoots twenty and forty feet long. In eastern Mississippi and about Mobile, such hedges are a beautiful feature of the yards and fields. I have admired finer specimens of English Ivy in the sheltered streets of Philadelphia and New York than I have seen south. The general appearance of yards is, perhaps, no finer than with us. Our velvety lawns are infrequent outside the border states. Northern grasses do not thrive; Bermuda grass has a sickly green; clover is practically an annual. Oats are pretty when young, and sometimes beautify yards in spring. In January, a Georgian's hotel grounds, green with oats and with young blades of corn growing in mounds, elicited admiration from guests. At first glance I did not recognize old acquaintances, and asked mine host what new kinds of grasses he was cultivating. Bays, magnolias, myrtles, jasmines, and a great number of flowering trees, are a showy feature of yard decoration. As has been suggested,

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we do not enough appreciate our syringas, lilacs and snow-balls.

Surroundings indirectly affect our homes. A few words on public parks and streets, may not be out of place. With few exceptions, ordinary trees and lawns are the only horticultural cultivation exhibited in southern parks. Constant summer and verdure very likely make people indifferent to special effects. Our excellent roadways and substantial walks are rather ahead of southern achievements. Plank decays sooner than here, owing to climatic differences. In places like Jackson, Tennessee, and Columbus, Mississippi, aside from a few brick pavements, the streets are native clay in the natural state, half impassable in wet weather. Mobile and the larger cities use some asphaltum, more brick, shells, and gravel, and the usual amount of sand or clay. New Orleans with some of the best granite pavements in the world, has fine streets that are often either dusty or muddy. Too much praise cannot be given the hard, smooth, shell drives in the suburbs of New Orleans, Mobile and gulf towns. The south, on an average, is very thinly settled for an old country, perhaps one cause of poor country roads. The tendency is to wide streets. Canal street, New Orleans, is two hundred feet wide, a central portion, for street-car tracks, etc., is twenty-five feet wide, bordered each side by a row of trees and a walk. I recollect one street with three rows of trees, so both car car tracks were embowered. Macon, Georgia, has streets one hundred and fifty feet wide. Savannah has broad, shaded thoroughfares, and at many of the principal crossings are open squares with trees. Orange city, Florida, a new town, has all its streets sixty feet wide, I believe. Baltimore has, in some quarters, double drives with pretty, inclosed grass plots in the center.

The horticulturist who is a sociable person would probably, unless he emigrated with a colony, miss his old friends. Southerners are exceedingly polite, kind and generous in any one's emergency or trouble. On ordinary occasions, they mingle as little with strangers, as oil with water.

To go outside of merely neighborhood environments, the

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nearness to Philadelphia, Washington, Cincinnati and other great fruit markets and commercial centers, is worth considering.

In conclusion, no state has been left by our Creator without its own peculiar advantages and opportunities. The right kind of a man, aided by the right kind of a woman, can, in any reasonably fertile spot, either of the "sunny south" or breezy north, make a charming home. Neither wealth nor certain locations are first essentials. Taste, patience, and industry will everywhere make homelike homes.

THE VIOLET AND THE LILY.

By MRS. HELEN A. MANVILLE.

Under the shelter of an oak
A modest violet grew;
The most contented little soul,
I'm sure I ever knew,
Sitting within the shadow, in
Her dress and cloak of blue.

She never felt the sunlight on
Her head in blessing lay,
Yet most serenely did she smile.
And to herself would say:
"How blue the sky, how bright the sun
Does shine day after day."

Other and statelier flowers grew
Upon a taller stem,
And yet her best friends never knew
Her once to envy them;
Nor did she wish her dress of blue
Had ornament or gem.

A regal lily standing near,
Smiled on her with disdain
(She being of her own fair looks
Most wondrously vain,)
To see her so contented, in
Her simple suit so plain.

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And all the day her robes so gay
Did flaunt with much ado,
Until sometimes they almost touched
The humble suit of blue,
'Most putting on her neighbor's skirt
Her dainty crimson shoe.

The summer passed by like a dream,
Her beauty on the wane;
The stately lily did not seem
The while so wondrous vain,
Her dress grew tattered in the wind,
Nor could she mend again.

But yet the violet never lost
Her brightness and her bloom,
And always happy was within
Her little, narrow room,
Because she knew the sunlight lay
Beyond its walls of gloom.

Her eyes had just as glad a light
When came the chilly days,
Her dress was always clean and bright,
Still modest were her ways.
And all her songs from morn 'till night
Were songs of sweetest praise.

Two lovers at the sunset hour,
Walked the green meadows through;
Where many a tall and regal flower
In shining raiment grew;
And led by some resistless power,
Stopped by the violet blue.

"My darling," said Paul, "do you know
This flower would be my choice
Of all the beauteous flowers that grow?
It seems to have a voice,
A voice that always speaks of you,
The flower of my choice."

"It speaks to me of peace and rest,
Of days of joy to be,
Of future days, when, happy blest
For all time, dearest, we,
And so the violet is the best
Of all sweet flowers to me."

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Just then the maiden's raiment touched
The lily's shabby dress,
But neither of the lovers saw
Her in their happiness;
And very wroth the lily was,
I candidly confess.

"To think that they should both prefer
That simple little wight;
That they should give the choice to *her*,
When I was here in sight."
Alas! alas! she shook so in
Her rage, that left and right

Her bright leaves dropped upon the sward;
Her red hood, rent in twain,
Fell to her feet. She had no word
Of vanity again,
Of her own self the most abhorred,
She sank upon the plain.

The violet nestling in her hair,
The sunlight on her head,
The maiden made a picture fair,
As, with reluctant tread,
She left the cool, green meadow, where,
Unwept, uncomforted,

The lily in her death-throes lay,
Shorn of her every leaf,
Her crimson vest all torn away,—
Faded most past relief,—
Robbed of all bloom — her vanity
Even as her day as brief.

The moral which I would convey,
Let not your beauty make
You ever vain, day after day
Your share of sunlight take,
And if your'e ever loved, you'll be
Loved for your own sweet sake.

DOES THE FLOWER GARDEN PAY?

Responded to by OLIVER GIBBS, JR., at the Green Bay Banquet.

Mr. President: My wife, who keeps the statistics in our family, notified me about a month ago, that the clock which

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tells the years for us had struck fifty-one for the ostensible head of the establishment; and now as I am on the shady side of life, I realize more clearly than ever before that there are employments for us in this world that pay tolerably well and yet whose remuneration may not be accompanied by the crinkle of greenbacks, or the clink of specie; and of all the branches of horticulture that pay us in the pleasure they afford and the good they enable us to do, I take the affirmative on the proposition that the flower garden rather has the lead.

You who do not grow flowers think you love and admire them. Probably you do. I guess everybody loves flowers. But you can never begin to imagine how much pleasure they can confer till you come to have a flower garden and tend it with your own hands.

The flower garden pays especially well in its influence upon children in the family. Whatever fixes the attention or engages the affections of the young, either elevates or debases them. When they take to flowers, who ever thought of a bad influence from it. Flowers are as good medicine for the mind as fruits are wholesome for the body.

My wife and I have brought up a family of girls. We have one son, and he is the *only one.* I do not speak here to advertise the girls for the matrimonial market. All but one are gone, and we do not want anybody to come after her. But I was thinking when this toast conundrum was propounded to me, how much good the rose garden at our home has done the girls and their associates. How convenient it has been when the young gentlemen from other wigwams were hanging around, and the old folks in the way, for the girls to help the cads out of their embarrassment by saying, "Come out and see the roses, Joe," or words to that effect." And as my wife and I have sat on the front porch and watched the evening shadows chase the retreating sunshine up the eastward bluffs, we may have thought to ourselves that lessons in horticulture were being taught the boys out there among the roses that would be of some use to them by and by, when their wives wanted a man to handle the old briars, or dig in the rose garden, or foot the bills for a

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reasonable supply of seeds or plants for house or garden. Who could refuse, remembering the flower garden of young love's dream? We may have thought, too, that the girl who gives a young gentleman such lessons in horticulture, and who pins a flower upon his coat or places a bouquet in his hand, as she bids him good-night over the front gate, does her part to make a husband for somebody who will be more of the lover in married life for it, and who will find flowers in his home that are more attractive for his evening or other leisure hours than society at the clubs or cross-roads groceries, and who will "treat his wife, may be, as the most splendid flower" of all.

I remarked that we have but one son in the family. At present he is not much of a horticulturist. If he follows the plow with any pleasure it is when some neighbor has borrowed it and is taking it off the premises, or when it is badly crippled and going to the blacksmith shop. He does not feel the need of exercise in the garden. He loveth not the hoe, and the dibble is an abomination. Also the spade; and he would actually go without his strawberries than to pick them for himself. Yet for all this there is hope for even him. He may be eminent in horticulture some day. For after his mother has bossed the job, and I have done the work to grow a few choice free blooming roses, we notice now that when he comes home from the shop and fixes himself up for his evening walk, he, too, goes round the corner of the house to the flower garden and cuts a bloom of something for his coat collar, and liberally helps himself to enough of the pink moss roses to stock a school graduation; and when his mother watches his crossing the lawn towards the city she knows these flowers are not going to the beer saloon or the billiard hall; and she knows, too, that they will carry a silent message to some other mother that says we can trust our children when they wear the badge or carry the tokens or study together the lessons of the flowers.

How often a timely gift of flowers pays us for our labor in growing them. How delicately can we confer a favor or repay an obligation in this way, and how many fine lessons can be impressed by flowers. One day last summer I saw a

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railroad conductor, a young man, new on the road, interfere to protect a passenger from the insolence of a baggage master. The next trip he made through our town he found the best bouquet the place afforded awaiting him at the station, indorsed with the compliments of Lake City, for politeness to passengers. When that bouquet went home to his mother, wife, sister or sweetheart, at Hastings, while the givers reflected how it paid to grow flowers, I dare say he was thinking and would never forget that it paid to exercise common sense and politeness in the management of a railroad train.

The flower garden pays in the aid it gives us in the regulation of our lives. There are no creeds here to better the mind, no conventionalities to hinder our study into the laws of life. When we study the organs and growth of plants and flowers, we are led directly and irresistibly to apply the knowledge we gain by analogy to ourselves as only higher forms of life; and seeing one great law of variation, improvement, or degredation and heredity governing all, we learn to reverence the provisions that nature makes for man to work out his own relief; and to understand that there is no escape from the dreadful consequences of inattention to or violations of natural law, either for ourselves or our posterity.

We now understand, as pomologists, that the fundamental condition of success is a knowledge of fruit blossoms. Let us note and give due credit to the fact that all or nearly all our advancement here has had its beginning in the work of florists, in the study of the nature and uses of the organs of flowers; and here we find that the flower garden has paid us as the greatest promoter of our art.

THE ORCHARD.

By D. HUNTLEY.

When our worthy President suggested that I should write something for the summer meeting, I thought I certainly would not do so, for the very good reason that I could say nothing that would be new or interesting, nothing but what the most of you already know, and then the experience of

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the last year has been anything but encouraging to fruit growers in our section of the state, and to write as I felt would hardly do. It was suggested (ironically) by Mrs. Huntley, that I could write a very good article on the growing of apple trees for fire wood, as I had been doing quite an extensive business in that line this spring.

In the spring of 1862, I set 100 apple trees. Nearly all of them lived to bear fruit. We watched them with a good deal of interest and anxiety. The first that gave us any fruit was the Saxton or Fall Stripe. They were grown in a Janesville nursery, I do not know by whom, were purchased by a tree dealer who bought most of his trees from eastern nurserymen. When the trees came to Appleton he refused to accept them, and an agent was sent on from Janesville to sell them at auction. I think the reason he gave was that they were not properly pruned, too low and bushy; were not as fine in appearance as the eastern trees. Several farmers, myself included, examined these trees closely and concluded to buy if they did not go too high. We did so, and they proved a success, not that they all lived or all bore fruit, but most of them did. Three Talman Sweet, two Sops of Wine, and one Golden Russett are still standing. The Golden Russett may hold on a year or two longer, the Sops of Wine are more healthy, and the Talmans are still better. Three varieties, viz., the Swar Wine Sop and Northern Spy, all died before they bore any fruit. The Pommil Gris and Early Harvest bore a few partial crops, but commenced dying nearly as soon as they commenced bearing, while the Perry Russetts and Colverts did a little better, but are all gone now. This lot contained no Red Astrachan, Duchess or Fameuse, but two years later, 1864, I bought 100 trees of J. C. Plumb, and 200 of Elwanger & Barry, of those trees. The Fameuse was the most profitable, Duchess next, and the Red Astrichan still less; but the Red Astrachan trees are still healthy and thrifty but very shy bearers.

I have bought and set trees nearly every season since, trying new varieties to a limited extent as they came up for public favor, but in the spring of 1881, I found quite a num-

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ber of trees in the orchard dead; and others with a very sickly appearance, that were healthy and vigorous and bore full crops of apples the year before. The dead ones I cut into fire wood. The sickly ones or those more or less injured I left standing, thinking I might get a partial crop before dying. The leaves on some of these turned yellow before they were half grown, others lived through the spring, but had a very sickly appearance, and, by the first of June, in spite of all the fighting I could do for them, they were entirely defoliated by the tent caterpillar, and never leaved out again; others showed some life till this spring, when they too gave up the ghost, and I commenced harvesting the last crop, a crop of fire wood. Now whether it was the large crop of apples they bore during the season of 1881, the very severe winter which followed the ravages of the tent caterpillar, or all three of these causes combined, that killed them, I can not say. I do not think they would have died had it not been for the very severe winter. They might have withstood the winter had they not borne so large a crop the summer before, and some that could endure both of these no doubt, had to succumb to the additional weight of the tent caterpillar, for it is the last feather that breaks the camel's back. There are still many trees that show no signs of being injured, but none of the tender varieties.

Of the younger and more vigorous trees, I lost every one of the Jonathan Minkler, Cole's Quince, Yellow Bellflower, and Ben Davis all of which bore the year before, and some of them a very full crop. The Jonathan, Red Romanite and Ben Davis, kept till apples came again, and I had begun to feel very much elated with the prospect of a continuous supply of good apples during the whole year. But alas for human hopes and expectations, for they had to give place to grief and disappointment. Among other kinds still alive but injured, are the Hass, Plumb's Cider, Golden and Perry Russetts, and Seek-no-further, the Golden Russett least of all. None of the crabs, or Duchess, or Tetofsky, appear injured at all, and the Red Astrachan, Fameuse and Talman Sweet, only an occasional tree.

Of trees set at different times since I commenced to grow

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an orchard, the following varieties never lived long enough to bear, viz.: Golden Sweet, Early Joe, Sweet Bough, Primate, Early Strawberry, Fall Wine, King of Tompkins County, Wine Sop, and Haskills Sweet. Of those set which lived to bear apples but not with any profit, and all of which are now dead, are the C. Red, June Keswick, Codlin, Autumn Strawberry, Fall Pippin, Munson Sweet, Pumpkin Sweet, Rawles Jeanette, English Russett, Wagner White, Winter Pearmain, Early Harvest, and Ribston Pipin, and twenty ounce Pipin, Coles Quince, Red Romanite, Minkler Jonathan. Of those set with profit either in money or for home use are the following about in the order named: Famuese, Duchess, Talman Sweet, Sops of Wine, Golden Russett, Saxton, Seek-no-further, Perry Russett, St. Lawrence, Tetofsky, Red Astrachan and Bailey Sweet. And were I to commence setting a new orchard on a new place, I should plant many more of the best varieties of Crabs than I ever have done, more of the Duchess, Fameuse, and Talman Sweet, some Saxton or Fall Stripe, Sops of Wine, St. Lawrence and Red Astrachan, and less of those not known and recognized as hardy. More Crabs or Siberian apples because there is more pleasure in growing trees that will live and grow thrifty, and bear fruit, than there is in growing varieties that are better in quality but die oftener than they live, so that disappointment has become the rule instead of the exception, and again, because they are very much better than no fruit and a real ornament to the orchard in blossom and foliage and quantity of fruit.

I have heard many say the present season that there was no profit in growing or trying to grow fruit, or none except the small fruits, and that they should plant no more trees, and I have felt the force of this remark. But when I look around me I find that those that set no trees, as a rule buy little fruit, and consequently go without, and have little or no pleasure that those take who have even a few of the more hardy kinds. And if I did no more, I would certainly set three varieties of Crabs, viz.: Transcendent, Whitney's No. 20, and Lake Winter, and two each of summer, fall and winter apples, viz.: the Duchess and Sops of Wine for summer;

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St. Lawrence and Fameuse for fall, and Talman Sweet and Golden Russett for winter; and were I to add another for each of the three seasons, it would be the Tetofsky, Wealthy and Seek-no-further.

Notwithstanding all the drawbacks and discouragements that we all have who try to grow fruit in this state, and especially in my own portion of it; notwithstanding our very severe winters, which are so sure to visit us every five or seven years, and to destroy so many of our hopes; notwithstanding the bark lice, and the borer, and the canker worm, and the tent caterpillar, and the mice and the rabbits; yes, and the cattle and the sheep; notwithstanding all these and many more enemies that we have to fight, yet I do believe it pays to grow an orchard, not in dollars and cents, perhaps, but for the fruit we shall certainly get in more or less quantities for ourselves and our children to eat; for the pleasure of seeing it grow and gathering it into the cellar to bring out during the long winter evenings of midwinter — and the fact that it does require the care, the intelligence and the unceasing vigilance to succeed in this undertaking brings us all the more pleasure in the end. What pleasure is there unmixed with pain. Does the mother love her child any the less because of the care and pain it causes her; of the many sleepless nights and tiresome days that she bestows upon it through helpless infancy and wayward youth. Nay, these only increase her love and make her all the more vigilant and watchful in her efforts for its welfare. And it is thus with horticulture in all its branches, if everything grew spontaneous, or with little or no effort, there would be little or no value given to the production, whether of fruit or flowers. So let us take courage and bring to our calling a higher intelligence, a more persevering industry, and our efforts will be crowned with success.

STRAY THOUGHTS.

By A. L. HATCH, Ithaca.

In the presence of such an audience as this, it is evident that every word spoken should be valuable; that every idea

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expressed should be useful; that no thought should be misleading. It is our misfortune to belong to that large, and we hope respectable, class whose chief aim in life has been to get a living. And it is our further misfortune that, in getting that living, we have found it necessary to give such constant attention and such personal application, that we have found little or no opportunity to secure that polish of manner, that refinement of conduct, that easy grace of rhetorical finish to our conversation, which professional and semi-professional employments may secure. It is to be regretted that the severe drudgery of rural life so generally denies to us those privileges of leisure and cheerful recreation so desirable and necessary to the fullest enjoyment of life. It is very natural that we sometimes envy professional men, their success and positions in life, forgetting, perhaps, that their toil, care and anxiety may have become drudgery and distasteful in the extreme. "There is no excellence without labor."

While we may envy the apparent excellencies of professional laborers, we should not overlook those of our own, nor loose opportunities for their improvement and enjoyment. The true measure of value is utility, and from this standpoint rural occupations rise in grandeur above the artificial occupation of the lawyer, as Mount Blanc rises in magnitude above the foot-hills besides the plains. Not because the law is without utility, but because it is so largely connected with the follies and foibles of life that it often descends from the true dignity which should always surround life's labors.

It is the peculiar province of rural labor to create homes —those centers of civilization and human comfort, where our mothers, our wives, our daughters shall reign queens of our hearts. It is to the model farm home, beautified, elevated and refined by horticultural influence, that the weary professional man turns at last as a haven of rest, where he may secure the comforts and blessings of life while treading softly down the vale of silvery-headed age. It is well, then, to endeavor to lessen the drugery of home work, to add to the beauty of our homes that we may enjoy for ourselves and dear ones the highest blessings that homes secure. There is,

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and we should feel it, a dignity in productive pursuits, a grandeur in creative rural labor that shall elevate and cheer every moment of our lives.

It is not possible to entertain everybody with the same things. Much of the work of such a convention as this must necessarily be over old beaten roads, and upon subjects already familiar to many. Yet it must be borne in mind that once in the life of each individual, everything under the sun is new. No sensible conclusion can be arrived at to guide any work, unless all the modifying circumstances are known and properly considered. Each and every method must be complete in itself. The variety in soils, sites, slopes, elevations and depressions that Wisconsin furnishes; the many shades of conditions presented to every planter; the ever varying phases of new varieties constantly presented, all tend to create constant problems in horticulture. As a sample of some of these problems, grape-growing may be taken.

Among the stray thoughts that have come to us during this convention, there is one lesson of generosity peculiarly appropriate. We may expect that the birds, while they labor for us in freeing our trees and vines from insects, will also help themselves to a portion of our fruits. And surely, if the laborer is worthy of his hire, we must yield to our feathered friends a fair remuneration for their services. That justice may be done, our planting must be more liberal, our plantations broader and more generous.

And the flowers, jewels of nature, teach us another lesson of wisdom. Whenever we take from the plant any of its beautiful flowers, nature, relieved of the burden of perfecting seeds, sends out new buds and flowers in increased numbers, showing clearly that generosity brings its rewards, for they who give most may have most.

Truly nature might have made earth without flowers. Beautiful colors might all fade. And suppose they did! What if God decreed that henceforth every line, tint, shade, and marking of color should be abolished from the earth! Would not mankind be cursed as never before? The lavish combinations of color, the beautiful outlines and markings

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of form have been created for our enjoyment. If we do not enjoy them, if they do not make us better and cheer us by their beauty, it is not because of our own disposition toward them.

One of the harmonies of life is found in the fact that if a person once experiences happiness it is a source of continued happiness. Pleasant memories are some of the elements of pleasurable emotions. What we can remember without remorse, that which produces only pleasant memories, is a perpetual well spring of pleasure. If our own meeting here shall leave you only pleasant memories, and if it shall encourage to a broader planting, a better cultivation, more skilful training, and a more generous supply of fruits and flowers, then it will not have been held in vain; for we consider it the mission of the Wisconsin Horticultural Society to cheapen fruits for all our people, and to improve and bless every Wisconsin home.

BIRDS.

A club for the destruction of sparrows and other birds was in formatien in one of the counties of England. At the inaugural meeting the following facts were elicited:

One farmer having destroyed upwards of 10,000 small birds in the season, yet his crops were not even up to the average of the neighboring farmers, being eaten up with wire worms and grubs.

Another farmer having killed five birds that morning opened their crops, and found that a crow or rook which was busy with his beak at the roots of the barley, which was just springing from the ground, when shot, contained nothing in his crop but cockchafer grubs, worms, and some maggots of the cornfly. The truth is that the rook does not, as a rule, attack the healthy blades of corn, but sees with the wonderful quicksight with which his Maker has endowed him those which are fading and perishing, and knows by instinct that there is a worm at the roots of such blades. It is

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the worm he digs for, not the corn, though he will eat that when there is nothing else to get—in the winter, for instance, or dry weather, when the ground is too hard to dig below it. But their natural food is grubs and insects; the wire worm and larvæ of the click beetle they are particularly fond of. They can be seen following close to the heels of the plowman. Of course, they cannot then be picking up grain as none has been sown, but are devouring the grubs and insects which are waiting to devour the crops. We therefore need not grudge them a little of the ripened corn when they are driven to it afterwards by hunger, for they have more than earned their share of it.

Some years ago an entire district was nearly deprived of its corn harvest, in consequence of the rooks having been killed by order of some of the local authorities; the grubs increased to such an extent that they ate up all the crops.

The same thing happened in France before the revolution of 1789. The government found it necessary to offer rewards for the best method of destroying the grubs, and yet the farmers ignorantly went on shooting rooks and other insectivorous birds, as if they had been their greatest enemies. In one instance a mob of people were so enraged against one of the land owners, who had a rookery in his grounds, that they went to his house in a body, dragged him forth and hanged him on a branch of a tree, after which they shot his rooks in triumph. The proper way to have delivered their fields from the grubs which ravished them, would have been to encourage rather than to have killed the rooks, and have thanked the owner.

If every rook's nest in this land were pulled to pieces tomorrow, there is no doubt that you would all wish them in their places again, and well filled, too, before this time next year.

Next bird, a swallow. He had no trace of fruit or any kind of vegetable substance in his crop, nothing but flies and gnats in very great numbers, which, if they had been suffered to live, would have given birth to thousands of others. Indeed, if there were no swallows or other small birds to kill gnats for us, we should soon be as badly off a s

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the Egyptians were when God sent "all manner of flies," upon them for their sins. Among the flies found in the swallow's crop are some of the tipulæ kind—"daddy long legs" some call them. These creatures deposit their eggs in great numbers under the soil, and are there hatched and produce larvæ in the form of elongated worms, having horns with which they cut and bruise their food, which is the fibres of the roots of cereals, such as wheat and barley. They also do considerable mischief by disturbing the soil and exposing the sprouting seeds to the sun. Therefore, we should be thankful to the swallows for destroying the flies before they give birth to these pests.—*Canadian Horticulturist.*

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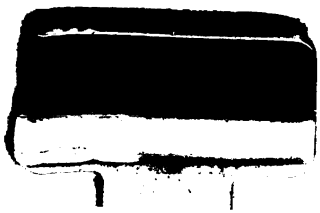
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